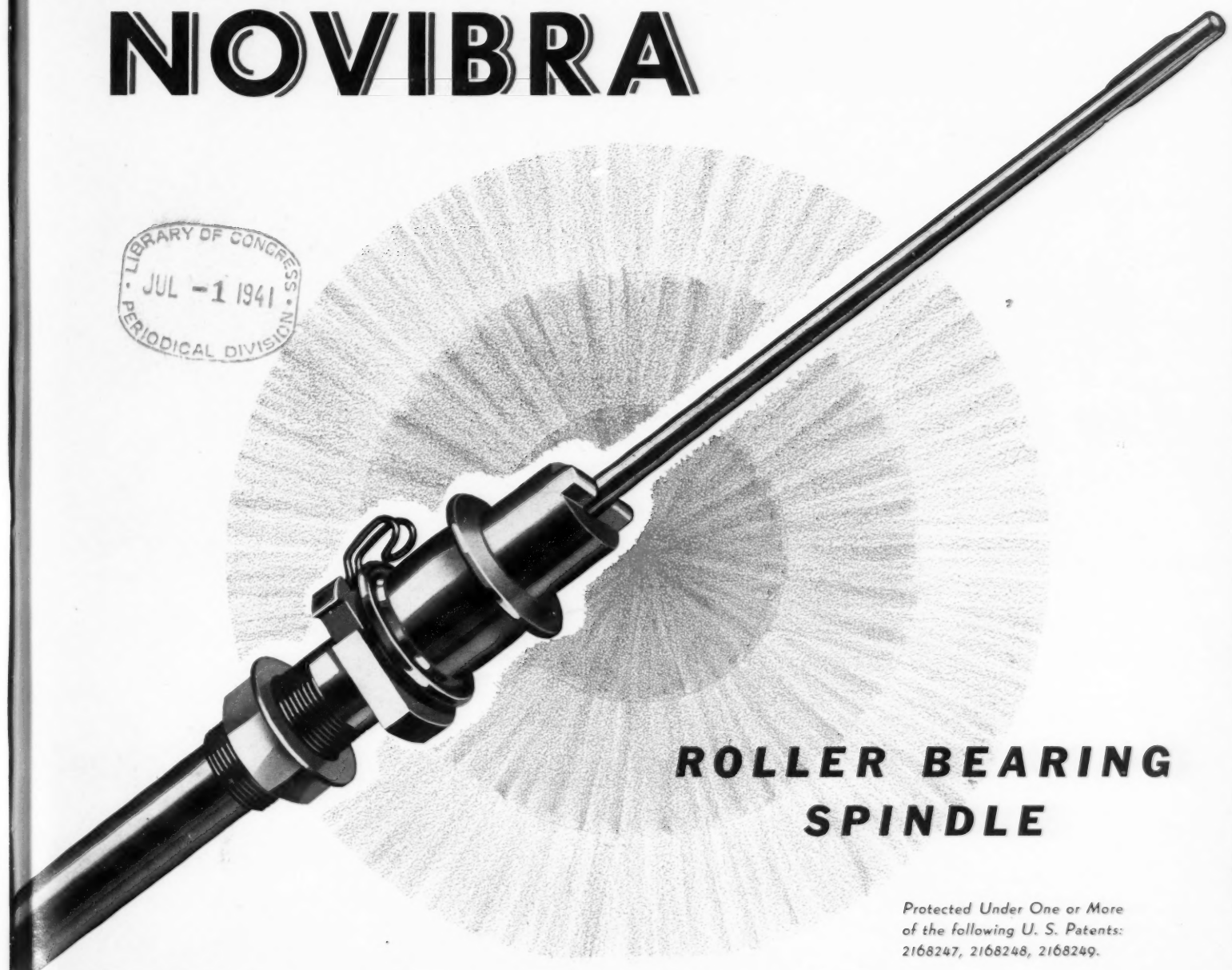
JUNE COTTON 1941

SERVING THE Textile Industries

MARQUETTE NOVIBRA



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PERIODICAL DIVISION

ROLLER BEARING SPINDLE

Protected Under One or More of the following U. S. Patents: 2168247, 2168248, 2168249.

BYRD MILLER
908 Woodside Bldg.
Greenville, S. C.

The Marquette METAL PRODUCTS CO.
1145 Galewood Drive, Cleveland, Ohio, U. S. A.

STANLEY MORTON
25 West Dorrance St.
Kingston, Pa.

Naphtols

FAST COLOR SALTS AND BASES

28 NAPHTOLS

49 DEVELOPERS

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET · NEW YORK

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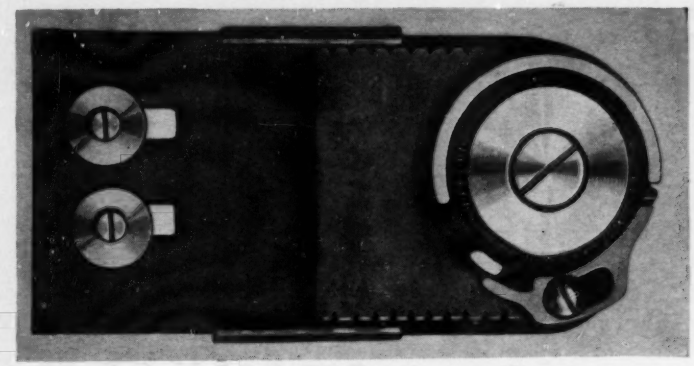


Original "Self-moving"
Temple Invented By
Ira Draper
Enabling One Weaver to Run
Two Looms Instead of One
June, 1816

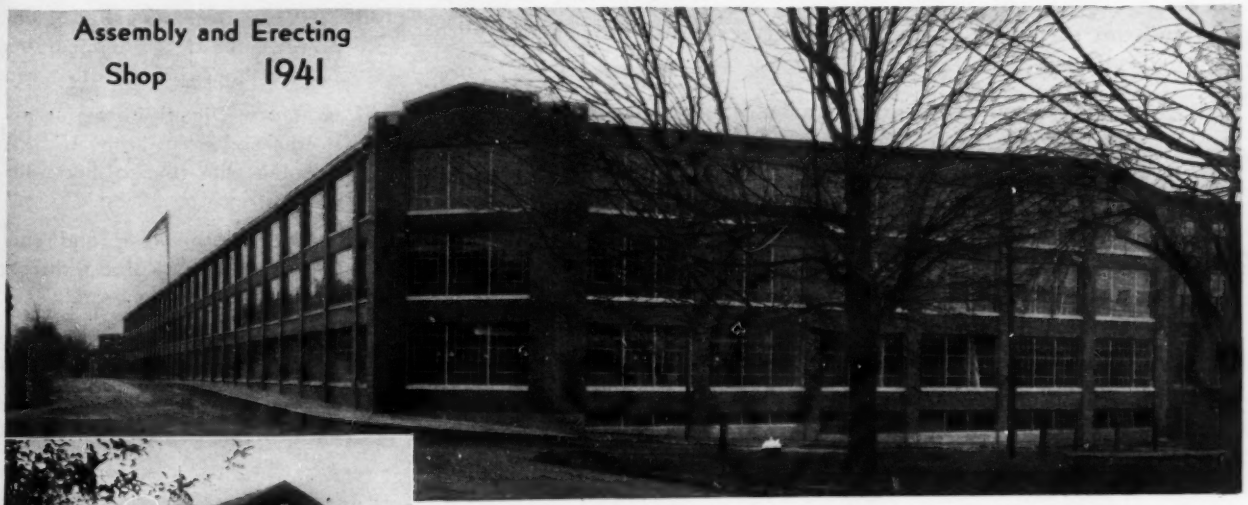
June, 1816 - June, 1941

125 YEARS EXPERIENCE

Designing and Building Improved Textile Machinery Has Been the Guiding Star of Draper Business Since 1816.

Throughout this period, Draper developments have contributed much to the growth of the American textile Industry. The value of these developments to the mills is reflected in the growth of our plant from its humble beginning to the enormous facilities now required to serve your needs.

Our desire for the future is to serve the textile industry by designing and building still better textile machinery.



Assembly and Erecting Shop 1941

First Draper Shop in Hopedale 1841

DRAPER CORPORATION

Hopedale Massachusetts

Atlanta Georgia Spartanburg S C

COTTON is published monthly by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A.
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Entered as second-class matter at the Post Office, Dalton, Ga., under the Act of March 3, 1879.

Volume 105. Number 6.

OIL THAT STAYS ON

YOU'LL FIND that losses due to oil spotting disappear almost the moment you change over to loom lubricants that stay put in bearings without creeping.

In all textile mills, prominent operators are enjoying this new freedom from oil splattering as a direct result of lubricating with *Texaco Stazon.*

Texaco Stazon stays on bearing surfaces, assuring more efficient lubrication with fewer applications. It resists thinning out, creeping, splattering.

The outstanding performance that has made Texaco preferred in each of the fields listed in the panel has also made it preferred by some of the largest textile mill operators in the world.

These Texaco users enjoy benefits that can also be yours. A Texaco Lubrication Engineer will gladly cooperate—just phone the nearest of more than 2300 Texaco distributing plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

THEY PREFER TEXACO

★ More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.

★ More tourists use Texaco *Fire-Chief* Gasoline than any other brand.

★ More revenue airline miles within the U. S. are flown with Texaco than with any other brand.

BALL AND ROLLER BEARING MANUAL—a helpful 44-page booklet on bearing construction, installation and lubrication. Yours for the asking.

Texaco Dealers invite you to enjoy FRED ALLEN in a full-hour program every Wednesday night. CBS, 9:00 E.D.T., 8:00 E.S.T.; 8:00 C.D.T., 7:00 C.S.T.; 9:00 M.S.T.; 8:00 P.S.T.

TEXACO

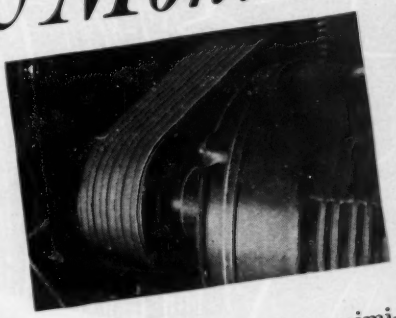
TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

FOR STABILITY AT HIGH TEMPERATURES
WARNER TSPP
(TETRA SODIUM PYROPHOSPHATE)
Outstanding in its action as a clarifying agent, TSPP clears a boiling soap or sulfonated oil solution of turbidity caused by hard water. More important, TSPP keeps these near-the-boiling-point solutions clear for many hours.
High in detergent, deflocculating and emulsifying powers, TSPP has low alkalinity. Bland, yet active, TSPP will not attack fibers or alter their composition. Textiles are as completely intact as they are perfectly clean. They bleach and dye with beautiful evenness, when processed with solution containing TSPP.
If definitely improved results with reductions in processing costs are interesting to you, it is well worth while to investigate Warner TSPP. Your inquiry for samples, price quotations and technical cooperation will have immediate attention.
OTHER WARNER CHEMICALS
Caustic Soda
Phosphoric Acid
Sodium Phosphates
Bromine
Liquid Caustic Potash
Carbon Tetrachloride
Chlorine, Liquid
Trichlorethylene
Perchlorethylene
Carbon Bisulfide
Sodium Sulfide
Epsom Salt
Hydrogen Peroxide
WARNER CHEMICAL COMPANY
Division of
WESTVACO CHLORINE PRODUCTS CORPORATION
Chrysler Building, New York City

INCREASES BELT LIFE *6 to 30 Months*

on Multiple V Drives



YOU can't tell the management of a large southern cotton mill anything about multiple V belts. They've tried pretty nearly all kinds on their spinning frame drives. And until a few years ago they derived little satisfaction from any of them. A combination of high speed and small pulleys wore out even the best conventional belts in a year and a half; some in as little as six months.

At length the G.T.M.—Goodyear Technical Man—was asked to suggest a remedy. He recommended matched sets of four E-C Cord Multi-V Belts (B-51).

That was the end of the belt problem. These lasted from two to three years. Even the first set to be removed had served six months longer than the hardiest of the belts used previously. During their entire span of service the E-C Cord Belts remained uniform in length, each pulling an equal share of the load. Naturally enough, the replacement belts on all these drives are E-C Cords, too.

The G.T.M. will be glad to show you how to achieve similar results on your multiple V drives through the use of uniform E-C Cord V Belts. Just write a note to Goodyear, Akron, Ohio or Los Angeles, California — or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME IN RUBBER

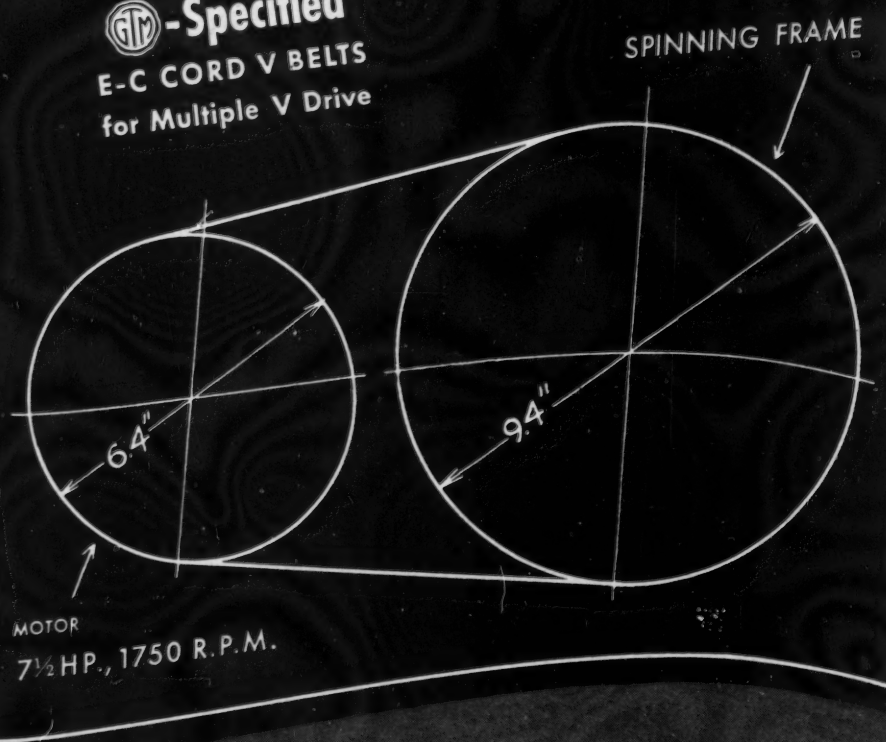
GOODYEAR

E-C Cord—T.M. The Goodyear Tire & Rubber Company

GTM-Specified

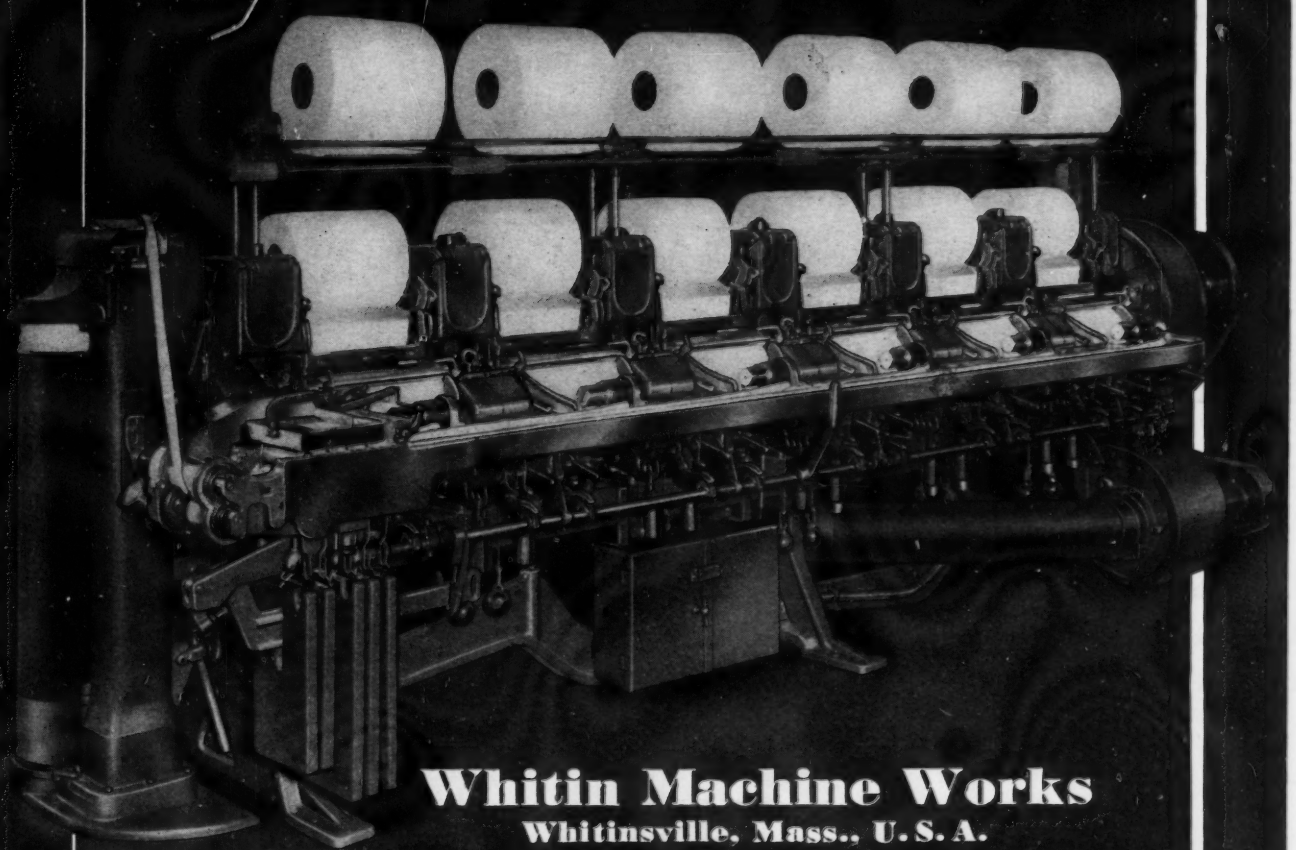
E-C CORD V BELTS

for Multiple V Drive



QUALITY
SIMPLICITY
PRODUCTIVITY

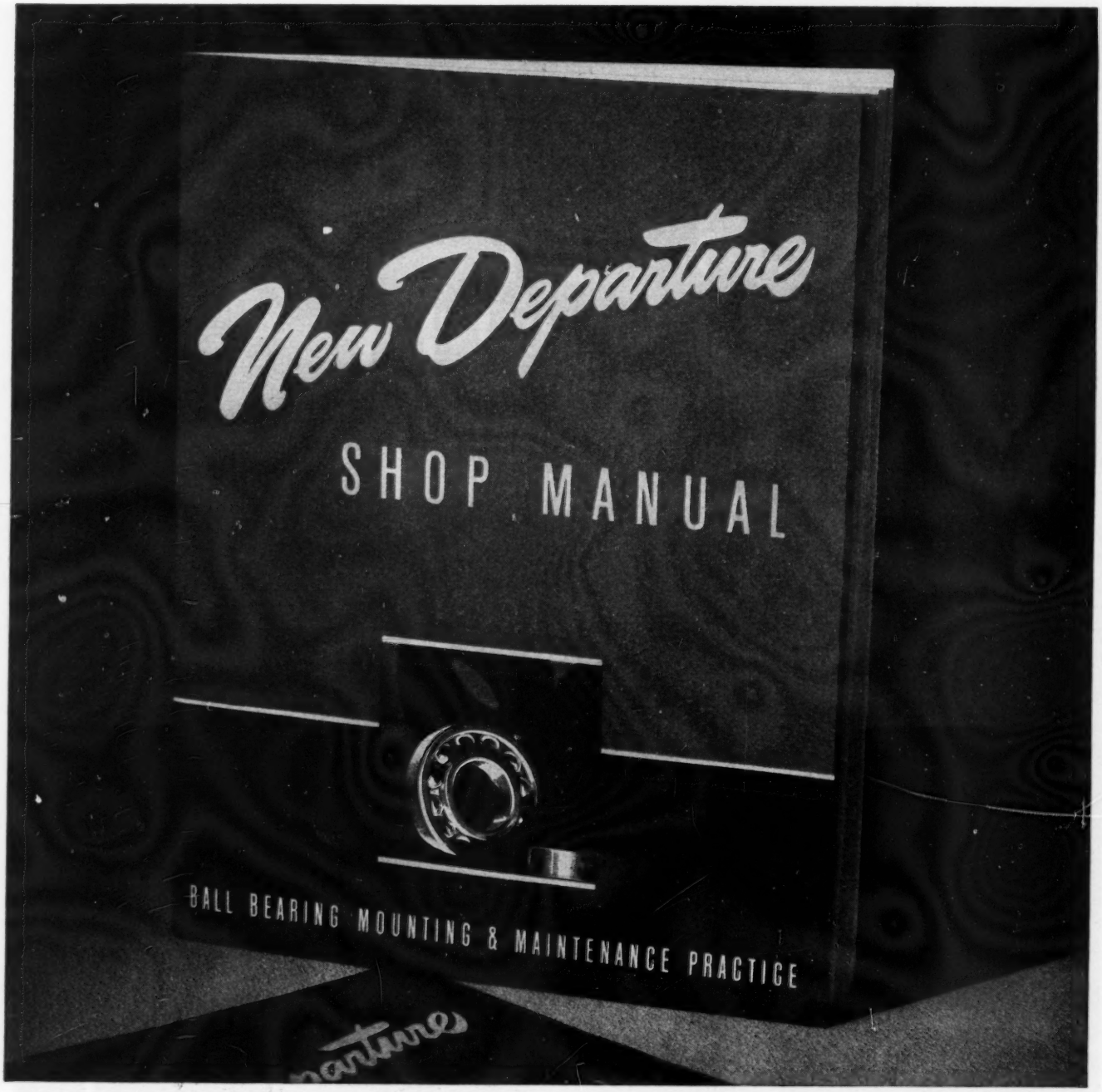
3 *Cardinal points of the new Whitin Model "H" Comber*



Whitin Machine Works

Whitinsville, Mass., U. S. A.

Charlotte, N. C. **Atlanta, Ga.**



Still At Your Service . . .

While New Departure's vast productive facilities are giving defense projects right of way, New Departure's technical staff has not forgotten its duty to its regular customers.

In fact, both old and new users of New Departure Ball Bearings will find extremely helpful this latest addition to the New Departure Engineering Library—the Shop Manual.

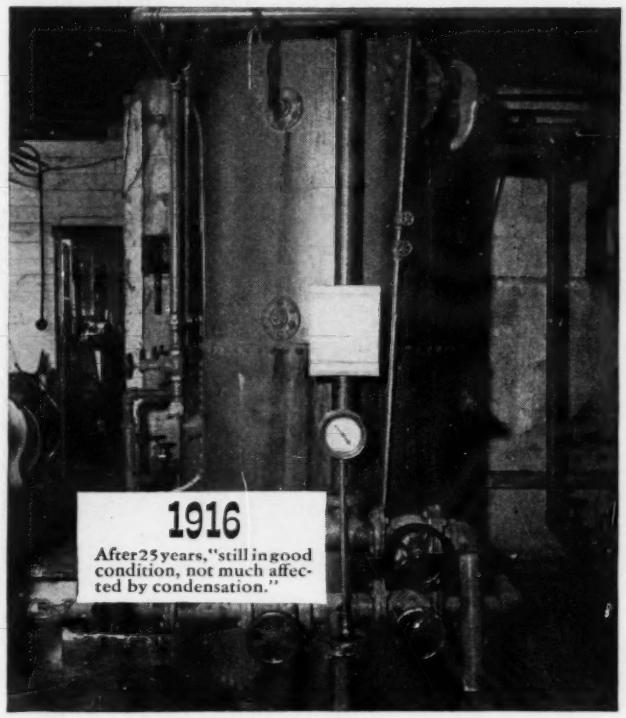
The New Departure Shop Manual should be read by every man responsible for the correct installation of ball bearings for maximum service and long life. Send for your copy and tell us how many additional copies would be required to supply your interested personnel. New Departure, Bristol, Connecticut.

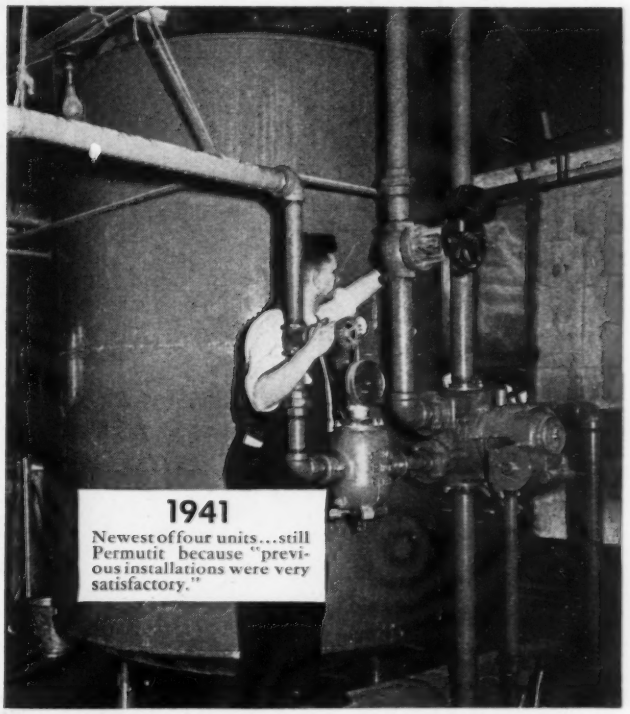
NEW DEPARTURE BALL BEARINGS

3010

Van Raalte

"always used PERMUTIT* water softeners"





—because good soft water is essential for economical, high quality dyeing and finishing

—says Mr. J. O. Montgomery, Manager

Van Raalte's North Tonawanda plant makes and dyes cotton, silk and synthetic yarn cloth. Hardness of the raw water is about 120 p.p.m., and it varies with the seasons. But not for Van Raalte. "Soft water is a primary requisite for textiles . . . we could not run a dyehouse successfully without it," says Mr. Montgomery. "We installed Permutit equipment in 1916; we now have four units. Our water is *soft, clear, iron-free and uniform.*"

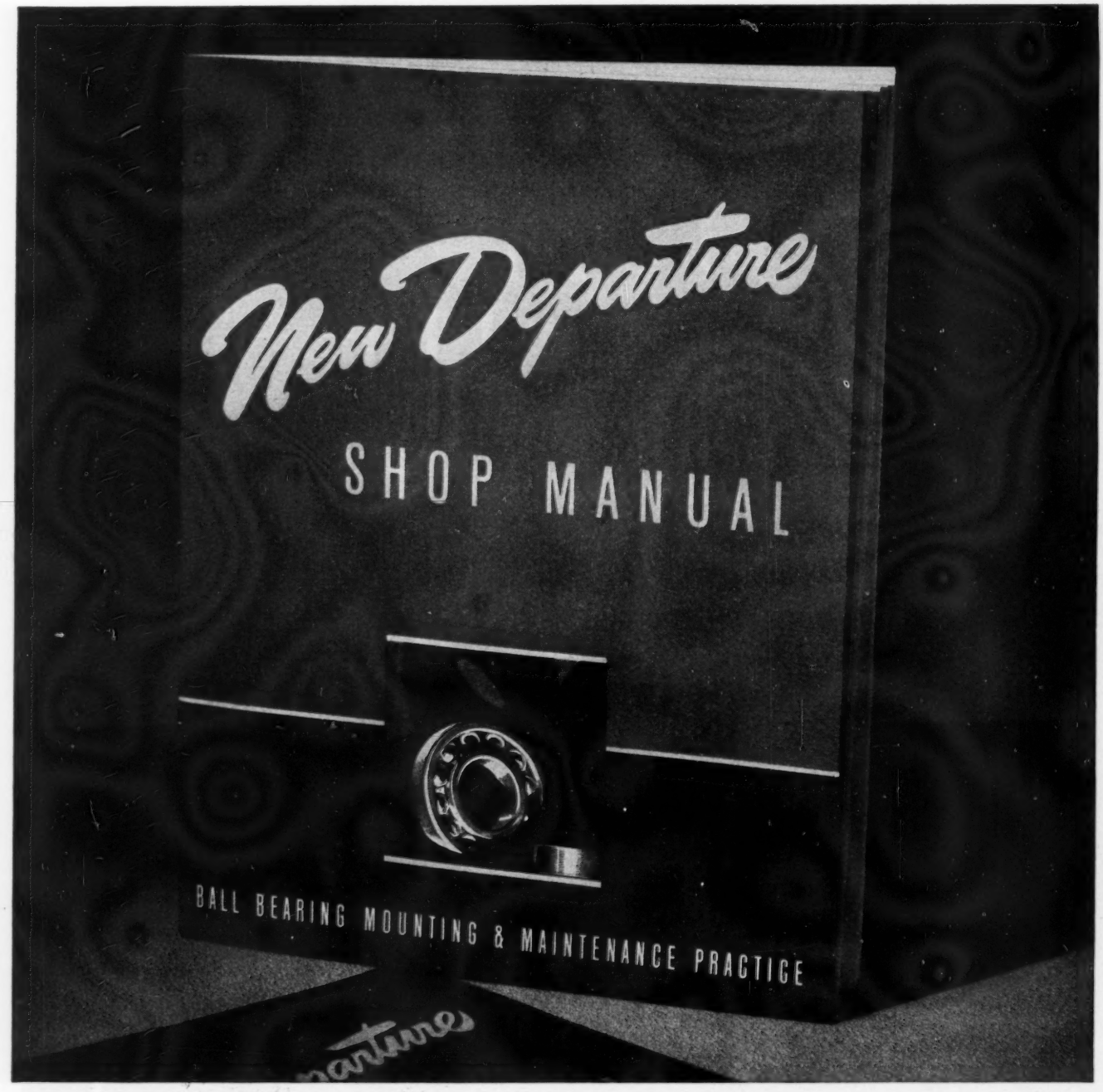
Van Raalte is just one of the many famous textile firms who are protecting quality by controlling process water. Permutit cuts costs, too—in soaps and dyes and in boiler repair.

Write for free booklet to The Permutit Company, Dept. B-1, 330 West 42nd Street, New York, N. Y.

*Trademark Reg. U. S. Pat. Off.

PERMUTIT

WATER CONDITIONING HEADQUARTERS



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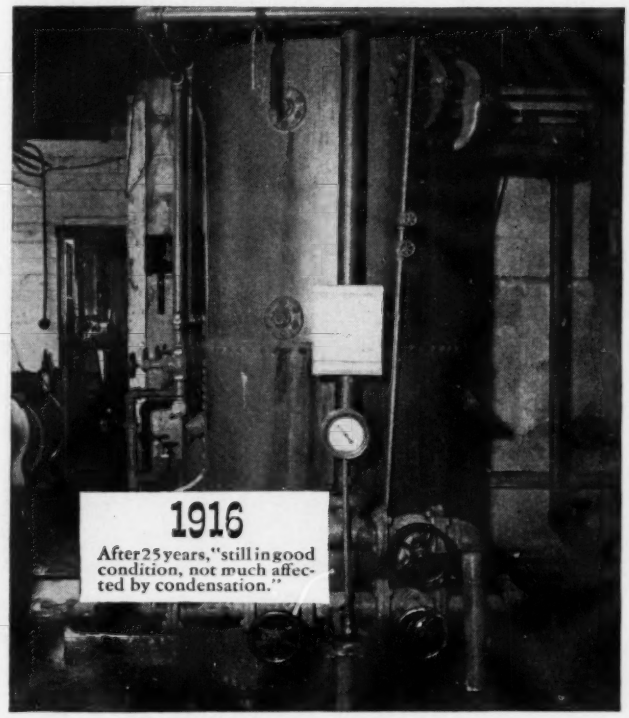

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PERMUTIT

WATER CONDITIONING HEADQUARTERS

WHAT THE CROWDS AT THE TEXTILE SHOWS LIKED MOST ABOUT THE UNIVERSAL AUTOMATIC

Naturally, the new Universal Automatic Bobbin Winder was among the exhibits attracting a major share of attention. Here are features of the machine that were most frequently discussed with our representatives:

Rugged Appearance.

The Universal Automatic is a solidly-built piece of machinery. Strong legs . . . heavy frame . . . cast-iron bed . . . double frame covers enclosing all moving parts.

Automatic Release of Tension.

At the time of bobbin transfer, the tensions are opened automatically to permit freedom of yarn delivery when the new bobbin starts — especially important when winding with heavy tension on the yarn.

Continuous Yarn and Bobbin Supply.

The magazine cone creel provides an uninterrupted supply of yarn. One operator works in back, loading full cones on reserve spindles; another works in front, loading the empty Bobbin Hoppers.

High Speed.

Spindle speed is approximately 5000 r.p.m., when using 7 winds. All spindles are gear-driven from a rotating shaft. A new rotating cam produces a "lock wind," builds better bobbins and prevents "shelling-off" in the loom.

See our General Catalog in TEXTILE YEARBOOK

UNIVERSAL WINDING COMPANY

PROVIDENCE Boston Philadelphia Utica Charlotte Atlanta

THE *Inside* STORY on the world's finest tires

BFG
1870
B.F. Goodrich
The B. F. Goodrich Company manufacture their own tire cord at the famous Martha Mills, Silvertown, Georgia
BIBB
The First Name in TEXTILES
Bibb Manufacturing Company — producers of cords and fabrics for tire and rubber manufacturers.
GOODYEAR
Goodyear produces from raw cotton the greater proportion of its tire fabrics, thereby insuring uniform quality of its products. One textile mill is in Canada, three in Georgia and one in Alabama.

The carcass of the modern tire on cars, trucks and buses must stand tremendous internal pressure . . . and constant and terrific abuse from road shocks, strain, heat and high speeds.

We are justly proud of the fact that *all of the tire cord yarn* made by Goodrich, Goodyear and Bibb is spun on the Saco-Lowell Long Draft System.

Saco-Lowell Long Draft Equipment makes it possible to produce yarn for tire cord that is strong, even, tough, and durable. Our engineering staff can be of assistance to you on your own particular yarn manufacturing problems . . . regardless of the type of yarn you are producing, or the purpose for which it is to be used.

SACO-LOWELL SHOPS

60 BATTERYMARCH STREET
BOSTON, MASSACHUSETTS

CHARLOTTE, NO. CAROLINA ATLANTA, GEORGIA GREENVILLE, SO. CAROLINA

YOU MAY make textiles to adorn slim figures, or for less decorative service. But in either case, you can keep your own figures slim—cost figures—by using YARMOR* 302 in all wet processing.

YARMOR 302 saves time as well as money. And that's not all. It helps textiles pass the many critical inspections along the way from fiber to final customer.

You'll find details to fit your job in the two columns to the right. For further information write Department CO-6.

CUT TIME AND COST—IMPROVE RESULTS IN ALL WET PROCESSING WITH YARMOR 302

Yarmor 302, When Made Soluble, Reduces Surface and Interfacial Tensions . . . Wets, Penetrates, Suspends, Disperses . . . Aids Detergents and Dyes . . . A Little Does a Lot and Does It Well

COTTON: In the kier, Yarmor 302 brings the liquor in contact with every fiber, leaves uniform bottoms that dye and finish more evenly. Boiling time is cut. Fibers are softer, fuller, more resistant to age-discoloration.

WOOL: Yarmor 302 is valuable in raw-wool scouring . . . irreplaceable in fulling. From the raw stock it produces clean, soft, really white wool in prime condition for storage or further processing. In the fulling mill, it cuts fulling time as much as 30% . . . costs no more . . . helps you meet contract delivery dates on time.

RAYON: In boiling off, Yarmor 302 rapidly emulsifies gelatinous materials . . . is safe for the most delicate fabrics. Used in dyeing, it makes the fabrics wet out and sink quickly.

DYEING: Yarmor 302 makes dye liquor penetrate the hardest fibers and heaviest seams. It gives an even, level deposit of dyestuff of uniform depth throughout every fiber. Loose dyestuff and impurities are suspended for washing out completely.

PRINTING: In printing paste, Yarmor 302 wets pigments thoroughly, disperses them evenly, and holds them in suspension without agglomeration until the design is on the fabric. Designs are sharp, colors bright and clear, no specks are formed.

*Reg. U. S. Pat. Off. 00-64

NAVAL STORES DEPARTMENT
HERCULES POWDER COMPANY
INCORPORATED
WILMINGTON · DELAWARE

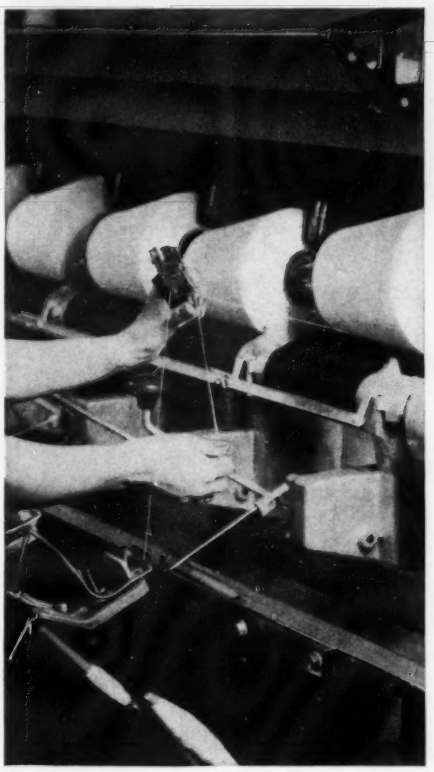
THIS IS NO. 27 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

HOW OPERATORS SHOULD START THE SPINDLE ON A DRUM WINDER (Roto-Coner*)

In changing from a slow-speed to a high-speed machine, mills often encounter new problems of operation. To help our customers get the best results with Roto-Coners,* we offer the following suggestions on how the spindle is to be started. These suggestions are based on the experience of those mills now getting the most satisfactory winding results.



(1) The first step is to remove the empty bobbin and place it on the automatic conveyor. Sometimes, several empty bobbins can be removed at once.

(2) From the supply shelf conveniently located above the winding spindle, the operator picks up a full bobbin and "readies" it for winding. This is done by unwrapping the spiral of yarn from the outside of the bobbin and winding it around the fingers of the right hand. The tail end of yarn at the base is also broken off to prevent tangling with the running end when the bobbin gets small.

(3) The operator places the full bobbin on the supply spindle with her left hand.

(4) At this point, many mills require the operator to run her finger over the face of the Slub Catcher to remove any small accumulation of lint.

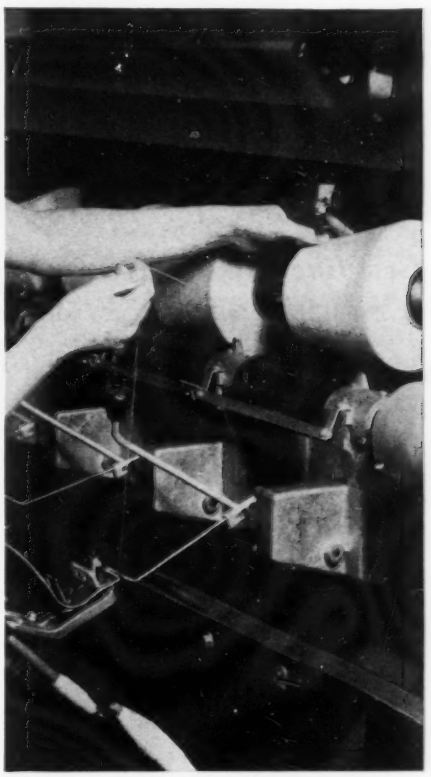
(5) Even though the Slub Catchers are self-threading, many mills consider it safer to have the operator do the "threading-up." It can be done with a flick of her right hand, and it insures that every inch of yarn will be inspected by the Slub Catcher.

(Many imperfections in knitting cones appear near the knots. This is due to the fact that, if the yarn is allowed to thread itself, there may be an instant when it is not between the blades. At 550 yards per minute (about 9 yards per second), several yards may pass without inspection.)

(6) With her right hand, the operator picks up the end on the surface of the cone. Since this end may, by now, have lost some of its twist, she winds a few coils around the fingers of her right hand.

(7) She now puts the two ends in the knot-tyer which is on the back of her left hand, and ties the knot, inspecting it carefully to be sure it is pulled tight and that the tail ends are cut off short.

(8) Holding the yarn in her right hand to prevent kinks from going into the package, she revolves the cone with the fingers of her left hand, and almost with the same motion, touches the starting handle which lowers the cone onto the drum. Since the cone is already in motion, the sudden contact with the fast-revolving drum will not harm the yarn. Then when she realizes the yarn is under tension, she allows it to drop into the groove of the traverse roll.



(9) During these operations, the right hand has collected waste yarn which was removed from the bobbin and cone. This waste should be disposed of frequently, perhaps in her apron pocket. On the Roto-Coner,* the conveyor belt is a convenient means of disposal for it is available at each spindle. Any waste on the conveyor will be carried to the end of the machine and dropped into a waste can.

See our General Catalog in TEXTILE YEARBOOK

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

*Reg. U. S. Pat. Off.

A MILLION MOISTENED FINGER TIPS WILL MAKE THIS TEST!

New linen-like textures in Crown* Tested Spun Rayon Fabrics drink up water like a sponge

. . .

You'll be amazed when you see how absorptive these new spun rayon fabrics can be. Give them the finger-tip test, or douse them with water. Actual tests show that they absorb more water than linens of comparable weight and quality.

This fact should have double-barreled importance to you. It's an indication of the versatility of spun rayon fabrics. Properly woven, dyed, and finished, they can be made to meet virtually any

requirement.

It means further that you are protected against the possible effects of a linen shortage. If you are connected in any way with the production or distribution of tablecloths, napkins, towels, handkerchiefs, or scarfs involving linen, it will pay you to investigate what spun rayon can do for these products. Write today for complete facts.

Facts about the linen-like textures in Crown Tested Spun Rayon Fabrics

1. ***Highly absorbent.*** Handkerchiefs recently tested 36% more absorbent than linen.
2. ***Washable.*** Tablecloth showed no sign of wear after three months' commercial launderings.
3. ***Fast colors.*** The spun rayon fabrics are not subject to crocking.
4. ***Serviceable.*** Proved by millions of yards of these fabrics which have gone into dresses and sports apparel.
5. ***Permanent whiteness.*** These fabrics stay really white. No tendency to yellow with age.
6. ***Lint-free.*** Suitable for cleaning eye-glasses, the best test of lint freedom.

*Reg. U. S. Pat. Off. Copr. 1941—American Viscose Corp.

AMERICAN VISCOSE CORPORATION

350 Fifth Ave., New York City

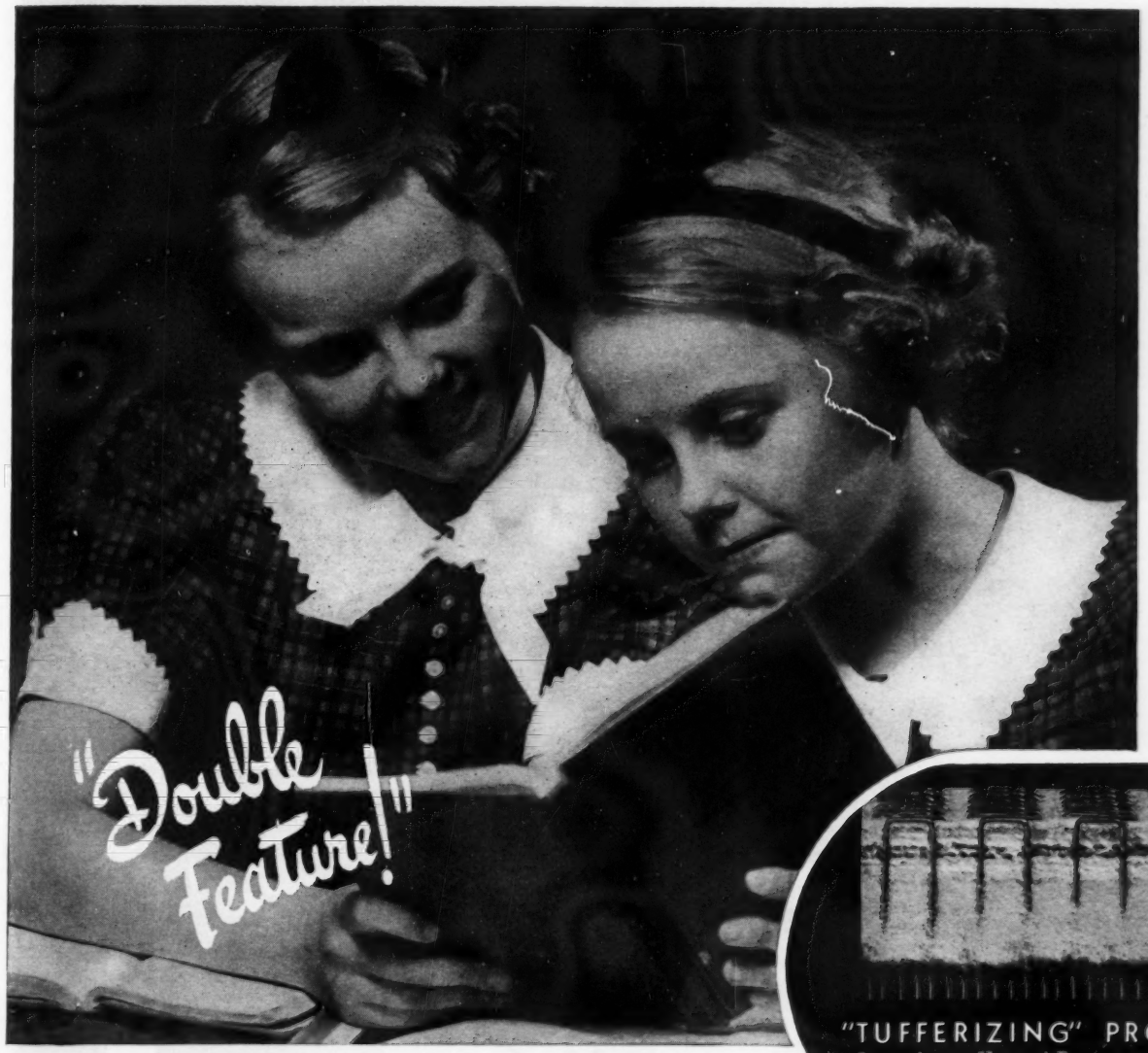
WORLD'S LARGEST PRODUCER OF RAYON YARN

CROWN TESTED AND APPROVED RAYON FABRIC

Sales Offices: New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

. . .

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Parkersburg, W. Va.; Nitro, W. Va.; Meadville, Pa.; Front Royal, Va.



Are you profiting from the

"Double Feature"

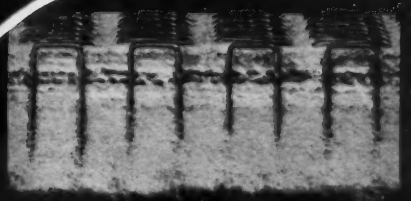
TUFFERIZED

U. S. PAT. NO. 2,174,179

CARD CLOTHING

The combination does it! The cushioned foundation that holds the specially tempered Tuffer wires so firmly yet flexibly in place. Notice the accurate square crown and alignment of the wires. Only the right foundation can hold this accuracy and give you high quality, trouble-free carding.

Inspect your card clothing now! Is it worn? Need replacement? Call in your Howard Bros. representative. He will appreciate your business and show it by quick, careful service.



"TUFFERIZING" PROCESS

An exclusive Howard Bros. patented-precision-process, makes every wire staple seat squarely, flat, and firmly into the famous, TUFFER foundation. All wires are even in length, spaced uniformly and perfectly parallel at all times. Each staple cut clean, sharp, smooth and free from wire burrs. Uniformity impossible to get any other way.

TUFFER (PATENTED) FOUNDATION

is made of carefully selected and specially constructed cloths for our own particular use. Tested to be several times necessary strength, TUFFER foundation is "cushioned" just right to make the wire shock-proof to the constant hammering of the various stocks carded.

HOWARD BROS. MFG. CO.

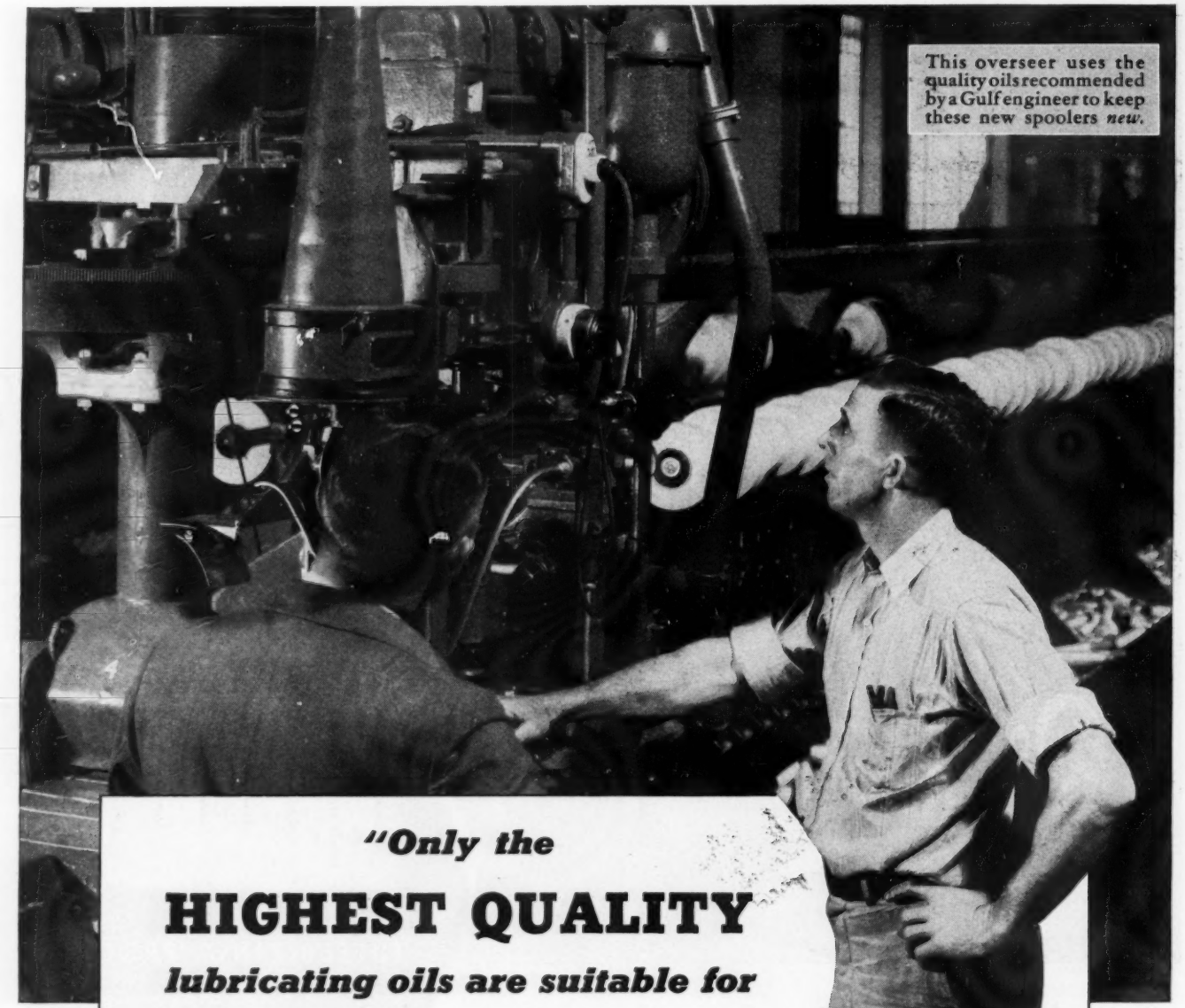
WORCESTER, MASS.

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas

Canadian Agents: Colwool Accessories, Ltd., Toronto 2, Canada

1866 OUR 75th YEAR 1941

PRODUCTS: *Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants • Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted-Eye and Regular Wire Heddles.*



This overseer uses the quality oils recommended by a Gulf engineer to keep these new spoolers *new*.

"Only the

HIGHEST QUALITY

lubricating oils are suitable for our new spoolers"...

SAYS THIS OVERSEER...

"For positive protection we have standardized on Gulf Harmony Oil for the enclosed gears and on other Gulf lubricants for the plain and roller bearings."

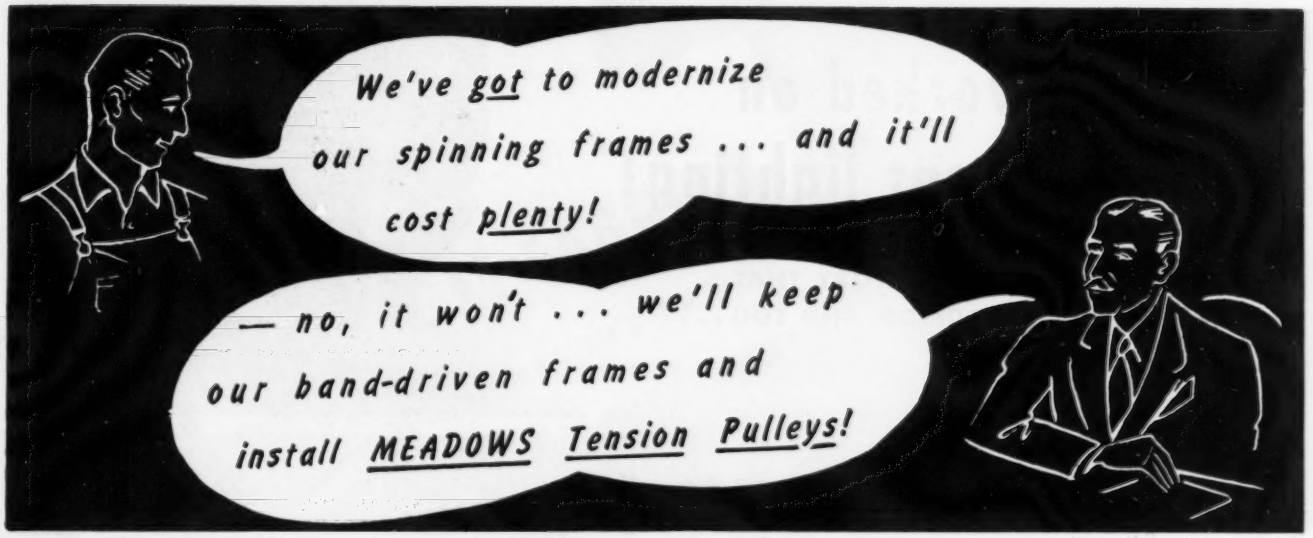
"WE'VE learned from experience that to keep new equipment *new*, only the highest quality oils are good enough," says this overseer. "That's why we use only the oils recommended by the Gulf engineer to lubricate our new spoolers. We have standardized on Gulf Harmony Oil for the enclosed gears and on other Gulf lubricants for the bearings."

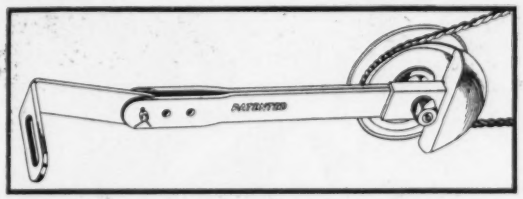
Do you want your equipment to stand up longer and operate more efficiently under today's pressing production demands? Call in the Gulf engineer today—his broad experience with equipment similar to yours can go right to work in your plant to help you step up production and reduce maintenance costs.

To assure you of prompt service, the Gulf line of more than 400 quality oils and greases is available to you through more than 1200 warehouses in 30 states from Maine to New Mexico. Write or 'phone your nearest Gulf office today.

GULF INDUSTRIAL LUBRICATION

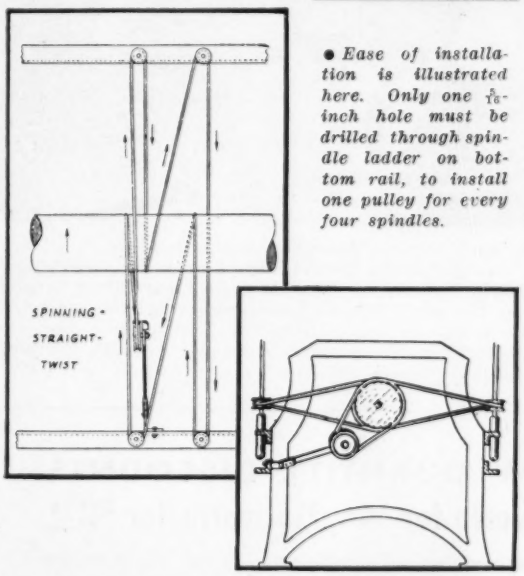
GULF OIL CORPORATION · GULF REFINING COMPANY · PITTSBURGH, PA.


We've got to modernize our spinning frames ... and it'll cost plenty!
— no, it won't ... we'll keep our band-driven frames and install MEADOWS Tension Pulleys!



• *Meadows Tension Pulley —pressed steel stamping, precision balanced, with adjustable heavy split fork supporting arm, variable detachable weight and adjustable angle bracket.*

• *M-R-C Lubri-Seal Ball Bearing—deep-grooved, accurately ground and hardened. Fully protected against dirt and lint.*



• *Ease of installation is illustrated here. Only one $\frac{5}{16}$-inch hole must be drilled through spindle ladder on bottom rail, to install one pulley for every four spindles.*

Cost-conscious mill executives are finding these ball bearing tension pulleys the economical and fool-proof correction agent for the expansion and contraction often encountered with band-driven spinning frames.

Installed at a fraction of tape-drive costs, they provide the equivalent benefits—uniform spindle speed, uniform twist at all times, no more band slippage and slack yarn, no more damp weather or dry weather or Monday morning band trouble, and once-a-year lubrication.

Meadows Tension Pulleys are pre-lubricated and sold with an unconditional one-year guarantee. They are sturdily built, and equipped exclusively with M-R-C Lubri-Seal Ball Bearings. Approximately 63,000 units, serving more than a quarter-million spindles, have been sold in the past 4 years without a single bearing failure!

Write Today for Prices and Booklet

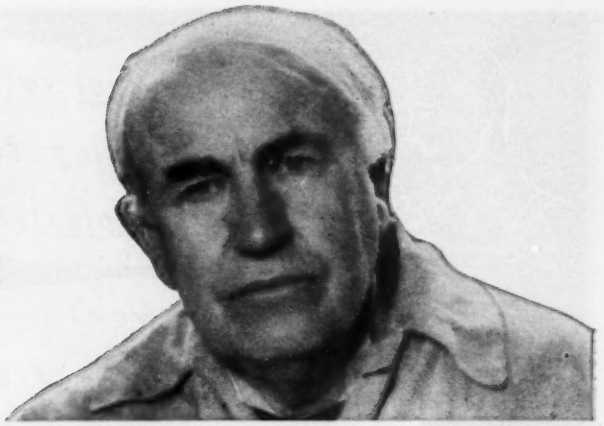
MEADOWS MANUFACTURING CO.

DOUBLE LOOP HOOK BANDS • BALL BEARING TENSION PULLEYS • SEPARATOR SHIELDS AND SPECIAL STAMPINGS FOR TEXTILE MILLS

POST OFFICE BOX 4354 ATLANTA, GEORGIA

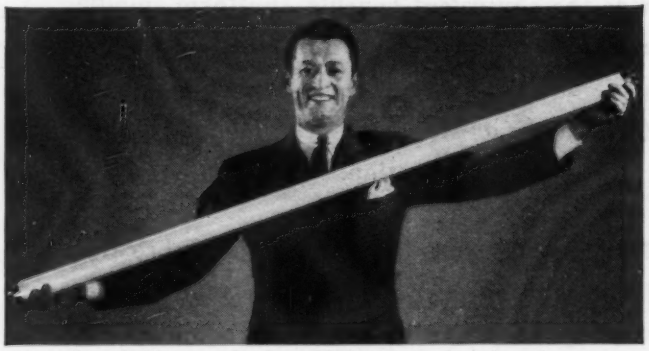
"He even worked on fluorescent lighting!"

A NEW SCIENCE STORY THAT CONCERNS EDISON AND YOU . . .



1 JOE: I'll be jiggered, fluorescent lighting in a club car!
AL: Brand new idea in lighting, isn't it?
JOE: Older than you think, Al. Even Edison worked on it!
AL: That man must have thought of everything!
JOE: Well, he *did* patent a fluorescent device in 1907!

2 JOE: . . . But General Electric spent years in research to produce today's high efficiency fluorescent lamps. They had to develop their own Phosphor—the material that transforms ultra-violet into visible light—then grind it almost as fine as that girl's face powder! For top efficiency it's got to be just so fine and no finer!



3 AL: Sounds like a peck of trouble just to make a lamp!
JOE: Yes, and that's only *one* thing G. E. does to make them give maximum light throughout life. In their Cleveland laboratory, they keep G-E MAZDA F (Fluorescent) lamps burning night and day till they go out! In three years, they've increased light output as much as 40% and reduced prices as much as 45%.

4 AL: What about fixtures? Does G.E. make those too?
JOE: No, General Electric doesn't make fixtures for these lamps. But they helped set up rigid standards for Fleur-O-Lier fixtures certified by Electrical Testing Laboratories. See the tag? Any manufacturer can get this certification if his fixtures meet the specifications. Over 40 companies cooperate to make Certified Fleur-O-Liers in all sizes and styles.

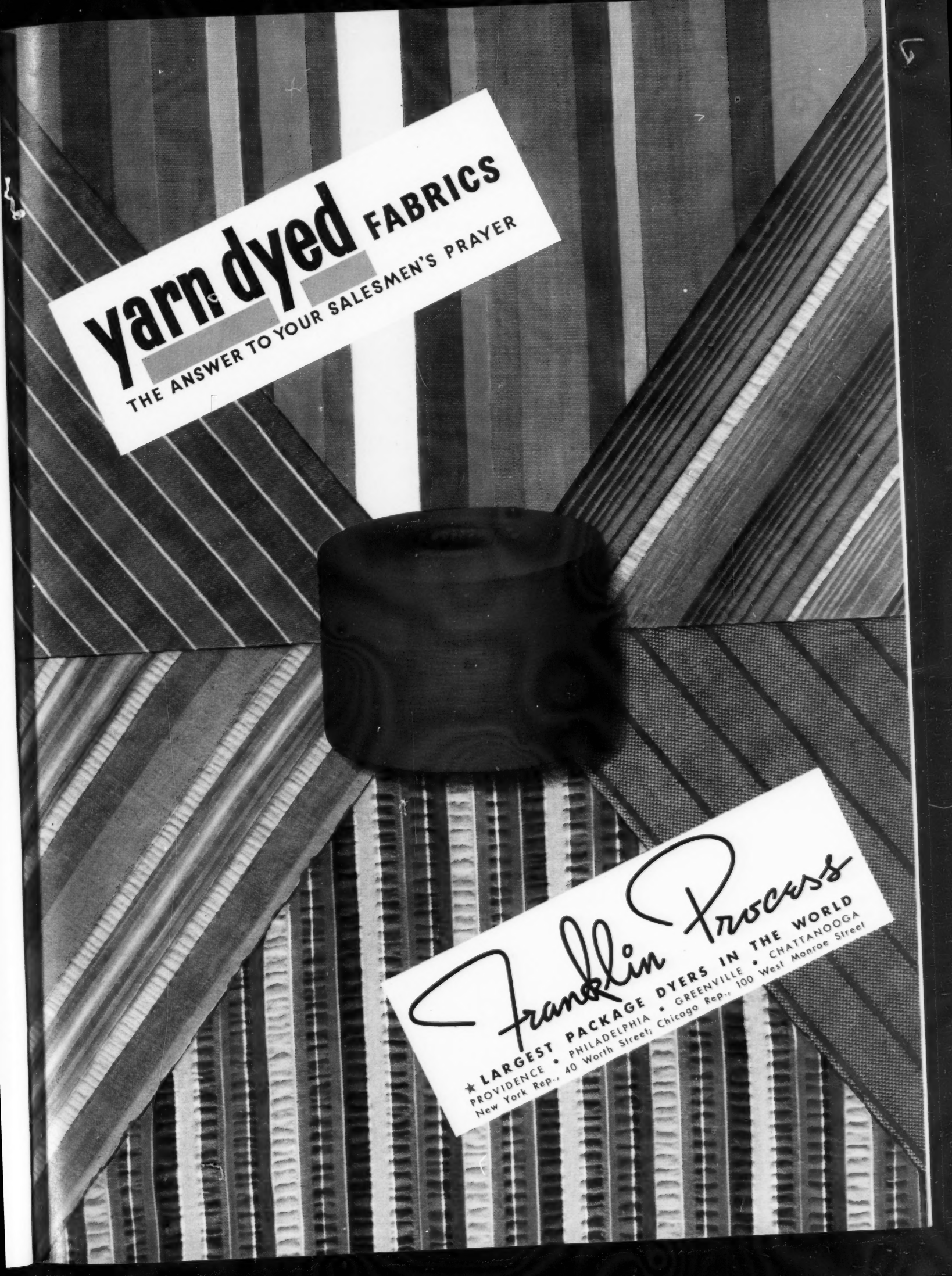
5 AL: Where would I get fixtures for my business?
JOE: Your G-E lamp supplier can show you a full line of certified fixtures with G-E MAZDA F lamps, ready to use!
AL: I'll take General Electric's word for it!
JOE: Right! You know the story of Edison's first *bulb?* Well, today's G-E bulbs give 10 times the light at 1/10 the price—and G-E MAZDA F lamps are following right in their footsteps!

NEW QUANTITY DISCOUNTS
$5 worth for $4—$15 worth for $11.25

Is your company taking advantage of new low quantity prices on all types of G-E MAZDA lamps? 20% off, $5 to $15 list; 25% off, $15 or over. New and larger discounts to contract purchasers. See your G-E lamp supplier!

G-E MAZDA LAMPS
GENERAL ELECTRIC

MAZDA: Not the name of a thing, but the mark of a research service


yarn dyed FABRICS
THE ANSWER TO YOUR SALESMEN'S PRAYER
Franklin Process
★ LARGEST PACKAGE DYERS IN THE WORLD
PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA
New York Rep., 40 Worth Street; Chicago Rep., 100 West Monroe Street

A

3-POINT

SERVICE FOR RECLOTHING

TOP FLATS

ASK ANY ONE OF OUR 6 REPAIR SHOPS TO RECLOTHE YOUR CARD FLATS AND MAKE YOUR CHOICE FROM THESE 3 METHODS OF PROCEDURE

1. Send your flats to our nearest shop and we will give you reasonably prompt repair service.
2. We will send personnel and equipment to do the job in YOUR mill (if you have 25 or more sets to be reclothed).
3. We will lend you flats while reclothing yours.

We recommend a new pair of chains with each set of flats reclothed.

ASHWORTH

ASHWORTH BROS., INC.

PIONEERS IN CARD CLOTHING

Woolen Div. AMERICAN CARD CLOTHING CO.

3 FACTORIES
FALL RIVER
WORCESTER
PHILADELPHIA

6 REPAIR SHOPS
FALL RIVER, PHILADELPHIA
CHARLOTTE, GREENVILLE,
ATLANTA, DALLAS

7 DISTRIBUTING POINTS
FALL RIVER, WORCESTER
PHILADELPHIA, CHARLOTTE,
GREENVILLE, ATLANTA, DALLAS

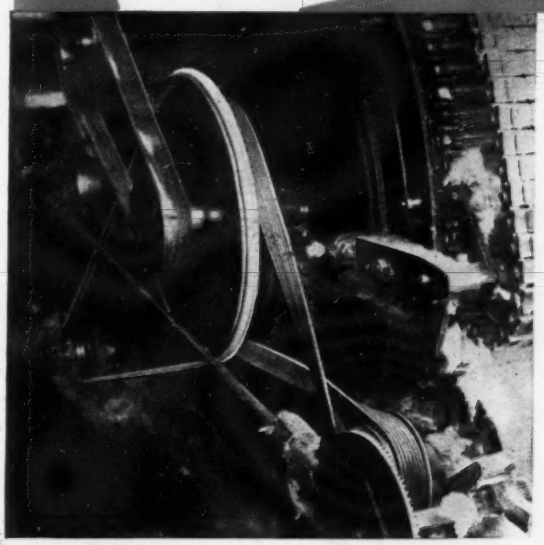
SOUTHWESTERN REPRESENTATIVE: • TEXTILE SUPPLY CO., DALLAS, TEXAS

PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed

"We've increased production with Gilmer Belts"

"We don't waste time on take-ups with Gilmer Belts"

. . . typical comments from textile mills



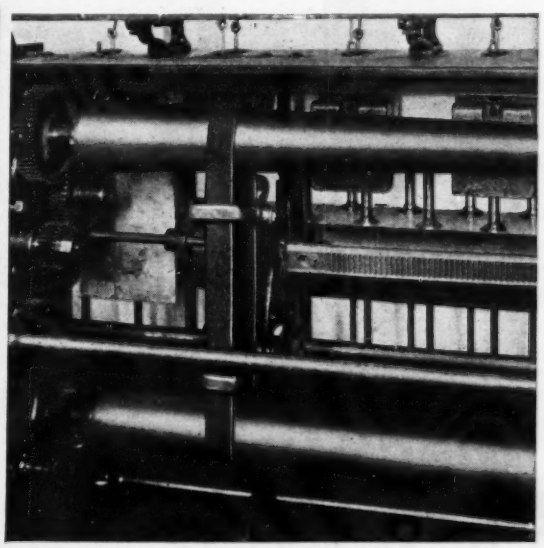
This Gilmer Kable Kord Lickerin Belt operating a carding machine with fixed center drive needed no take-up because of its minimum stretch. Despite the 180-degree twists, this belt won't fray at the edges. Lasts longer.

A Gilmer field engineer will gladly help you to belt your drives for greater output and lower maintenance cost. For more efficient power transmission:

GILMER KABLE KORD LICKERIN BELTS on thousands of carding machines in more than 300 textile mills have increased production . . . and show the longest life of any belt on the market. With these practically stretch-free belts, no time is wasted on take-ups, re-lacing or re-buckling. Belts are so ruggedly built that edges don't fray, even with the 180-degree twist and flanged pulley.

GILMER V-BELTS FOR SPINNING FRAME DRIVES combine high tensile strength with minimum stretch. They give excellent service on power drives from motors to spinning frames . . . lasting longer under the repeated strain of high starting torque.

GILMER CONE DRIVE BELTS have an endless cord, full-jacketed construction that assures long life. The rugged jackets won't fray at the edges despite frequent shifting, yet shift easily even with their high coefficient of friction. Because these belts have minimum stretch and require no splicing or lacing, maintenance costs are "rock bottom."



With its rugged jacket, this Gilmer Cone Drive Belt withstands the tough service of frequent shifting. Its minimum stretch eliminates the need for splicing or lacing.

GILMER ENDLESS ROUND BELTS FOR CARDING MACHINES have extremely low stretch compared with cotton bands, and need no take-ups or adjustments. Their high tensile strength assures long life with no maintenance expense.

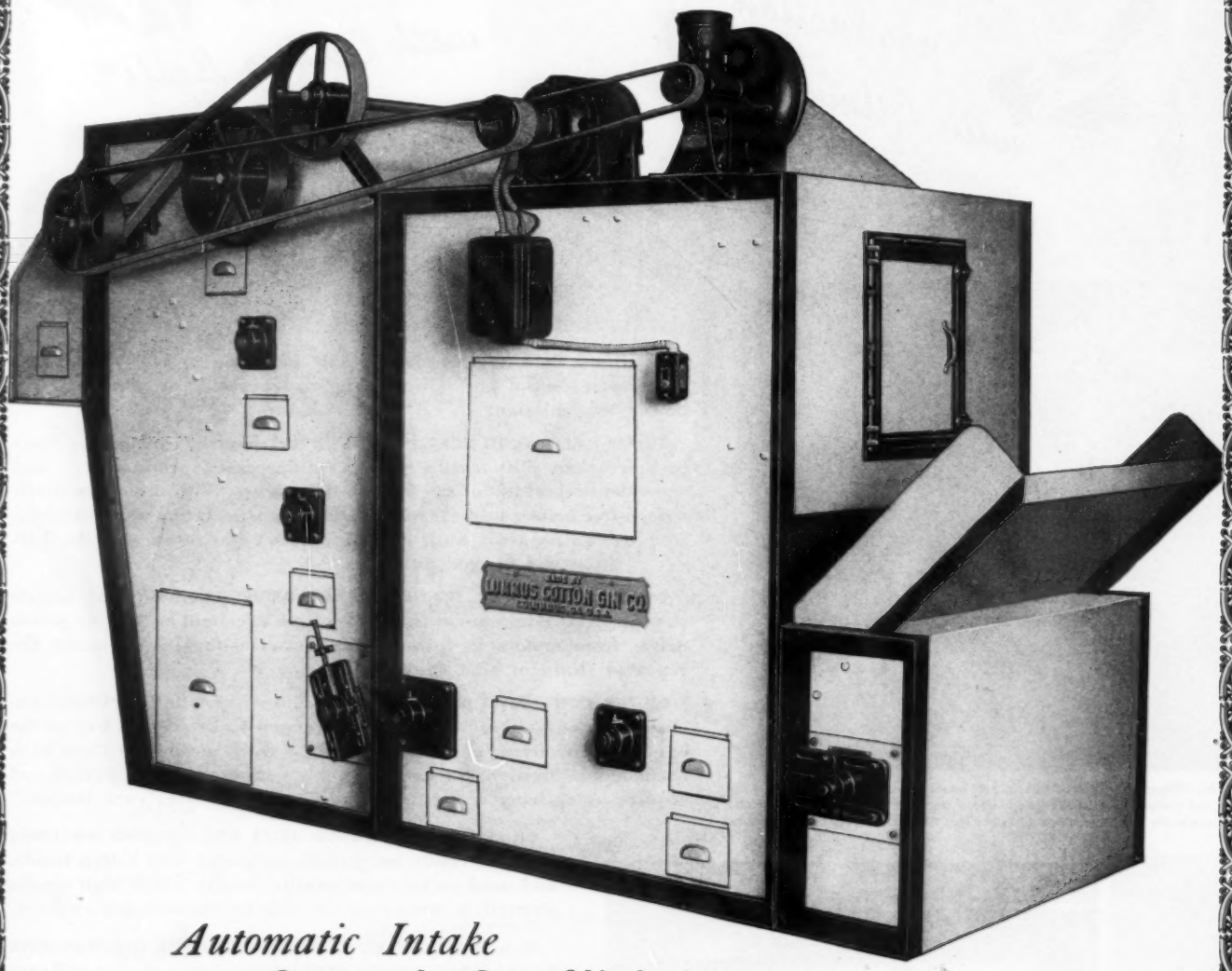
GILMER ENDLESS CORD SPINNER BELTS FOR SILK THROWING combine high tensile strength, minimum stretch and easy flexing qualities. They maintain true spindle speed and uniform thread twist, helping to increase output and to produce excellent finished thread.

L. H. GILMER COMPANY, Tacony, Philadelphia, Pa.

"The right transmission belt for every purpose"

Gilmer BELTS

THE LUMMUS BLENDING FEEDER



Automatic Intake
Cannot be Overfilled
Improved Cleaning Grids
Individual Motor and Dust Fan
All Ball Bearing Throughout

Sold by

AldricH MachinE WorkS

Greenwood, South Carolina

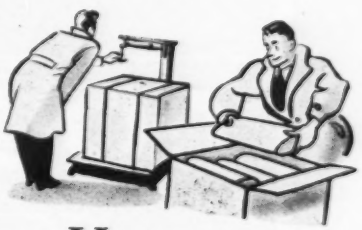
On the track...or in the shipping room...You have to strip for action these fast-moving days!

Against today's fast-stepping competition, shaving weight and bulk from shipments is a most important sales factor. Lower shipping costs, savings in warehouse space, these are advantages buyers appreciate.

That's why many textile manufacturers are turning to lightweight, compact, tough Gaylord fibreboard textile boxes.

Engineered to the job by the specialists who pioneered fibreboard textile boxes, Gaylord boxes are:

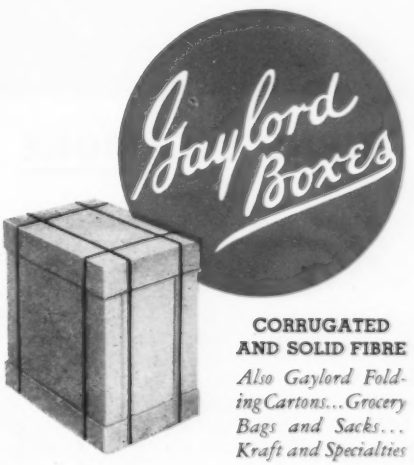
- *pounds lighter...*
- *minutes faster to assemble, pack and seal...*
- *dollars cheaper to handle, ship and store.*



Yet Gaylord fibreboard boxes assure safe delivery. Tough, resilient, scientifically designed and laboratory-tested, they withstand bumps and jolts with greater ease than heavier, more rigid containers.

So why not call in a Gaylord textile shipping specialist today?

See how you can
streamline your entire shipping setup,
cut costs,
and build customer good will
by trimming dead weight and bulk
from YOUR shipping cases!



GAYLORD CONTAINER CORPORATION

General Offices: SAINT LOUIS

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle • Indianapolis
Houston • Los Angeles • Minneapolis • Dallas • Jacksonville • Columbus • Fort Worth • Detroit
Tampa • Cincinnati • Des Moines • Oklahoma City • Portland • Greenville • San Antonio • Memphis
Kansas City • Milwaukee • Bogalusa • Weslaco • Greensboro

CORRUGATED AND SOLID FIBRE

Also Gaylord Folding Cartons...Grocery Bags and Sacks... Kraft and Specialties

CANNON MILLS

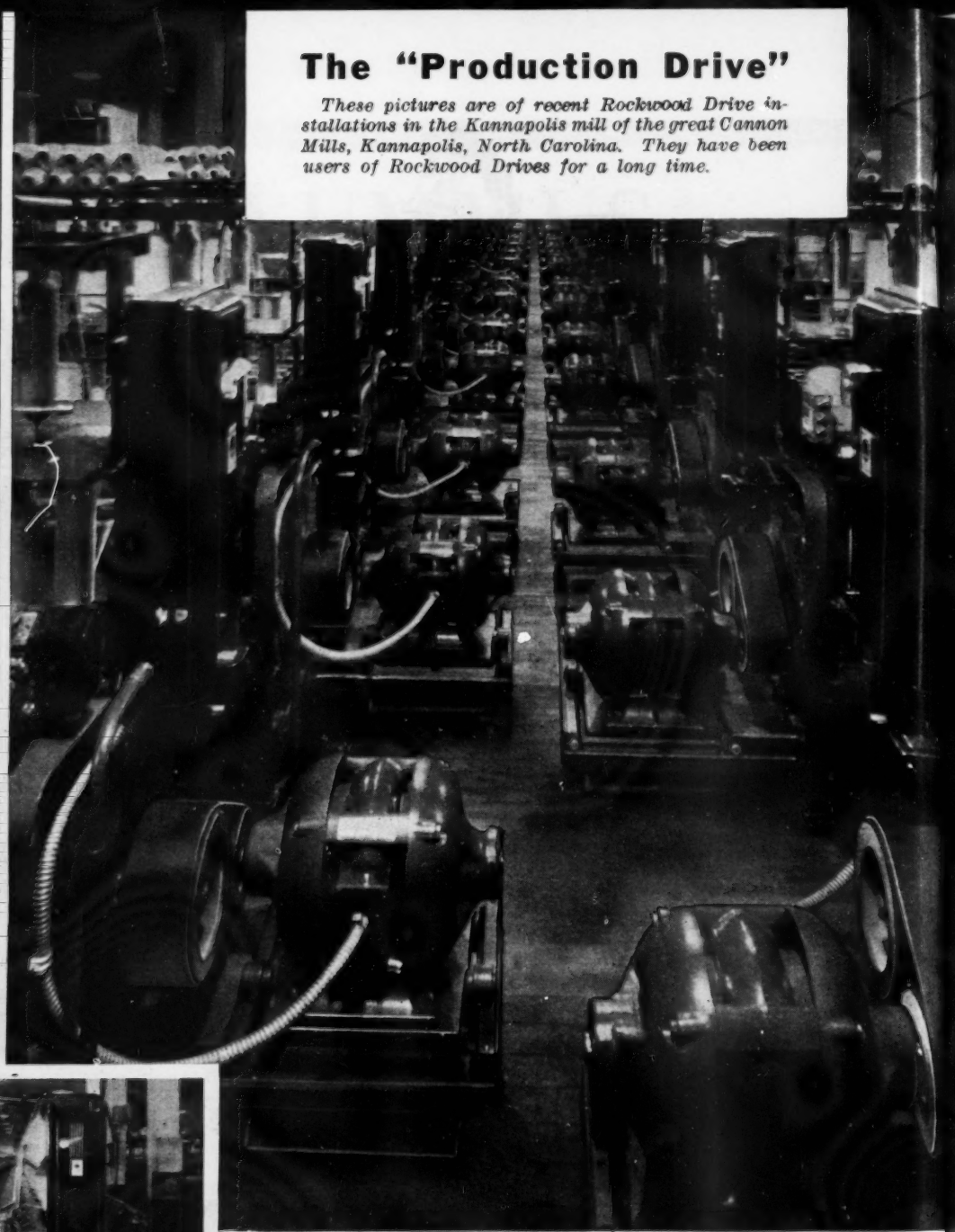
KANNAPOLIS N. C.

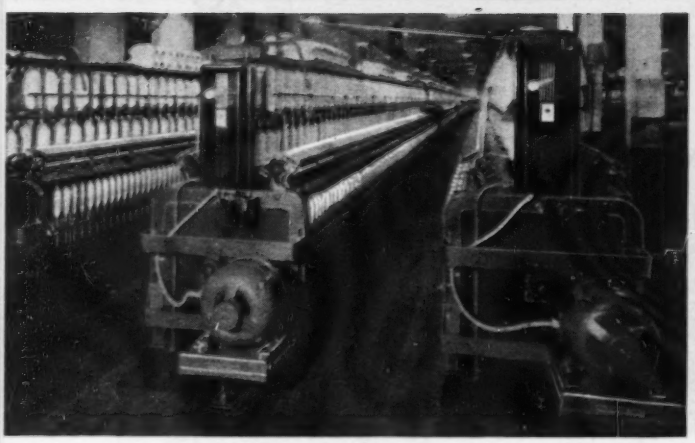
CHOOSE

Rockwood PIVOTED-MOTOR Drives

The "Production Drive"

These pictures are of recent Rockwood Drive installations in the Kannapolis mill of the great Cannon Mills, Kannapolis, North Carolina. They have been users of Rockwood Drives for a long time.





ROCKWOOD PIVOTED MOTOR DRIVE

TURNS OUT MORE YARN — AND OF A BETTER QUALITY

When leading cotton mills modernize they install Rockwood pivoted Drives to insure maximum production and a better quality of work from spinning and twisting frames, looms and other textile machinery.

Short belt drives on fixed center—whether V-belts or flat belts—*cannot and do not maintain driven machine speeds.* Without the Rockwood pivoted-motor-base changing loads and belt stretch cause slippage which wastes power and slows down driven machines. WITH the Rockwood Drive the weight of the pivoted motor *automatically* keeps the belt tight and prevents belt slip—no matter how the loads change or the belts stretch. Ceaselessly and dependably your driven machines are kept to uniform speeds—which increases their outputs and improves the quality of work they do.

CHECK THE FIXED CENTER DRIVES IN YOUR PLANT OVER A TWO WEEKS PERIOD. See what difference there is between calculated and actual speeds. Note the variations in driven machine speeds you are getting. Then figure for yourself what you would gain in increased production and better quality of work if you could maintain machine speeds to the maximum—automatically and dependably.

BETTER STILL ask your Rockwood dealer or write for a Rockwood engineer to assist you. Either will be glad to help you and no obligation.

Transmission Specialists Since 1883—Rockwood Paper Pulleys—V-belt Drives—Pivoted Motor Bases.

ROCKWOOD MANUFACTURING CO., INDIANAPOLIS, IND.

Many Mills are Changing Over to **The "Production Drive"**

It doesn't pay any textile mill to produce "seconds" on expensive equipment—nor can it afford to install costly motors unless their maximum efficiency can be utilized. That's why so many mills are changing over to The "PRODUCTION DRIVE."

This scientifically-engineered transmission unit—composed of a *Quality Leather Belt* which has the highest permanent pulling power of any known belting material, and a pivoted motor base which automatically maintains correct belt tension at all times—provides the uniform machine speed so essential in turning out quality textile products and in maintaining peak production.

For a better product, why don't you change over to The "PRODUCTION DRIVE"—already delivering over a million and three-quarters horsepower throughout Industry?

Ask any Leather Belting Manufacturer about results being accomplished in other mills.

AMERICAN LEATHER BELTING ASSOCIATION
53 Park Row, New York, N. Y.

AMERICAN LEATHER BELTING ASSOCIATION — GRIPS LIKE A HAND — RELY ON THE GRIP OF LEATHER — PULLS LIKE A TRACTOR

Rely on **Leather Belting**

GIVES YOU MORE MILES OF "OPEN ROAD"

. . . an "open road" on which to speed production to meet the challenge of the day. Standard Durene's free-running smoothness enables you to get more out of your machines without loss of quality. Rigid manufacturing standards keep this fine two-ply mercerized yarn at its production peak. Run Standard Durene and avoid production delays, get the even-knit hosiery and underwear that spells comfort, wear and beauty for the consumer, and profit for you.

STANDARD-COOSA-THATCHER CO.

CHATTANOOGA, TENNESSEE · *Sales Offices: 804-6 Lafayette Building, Philadelphia, Pa.*

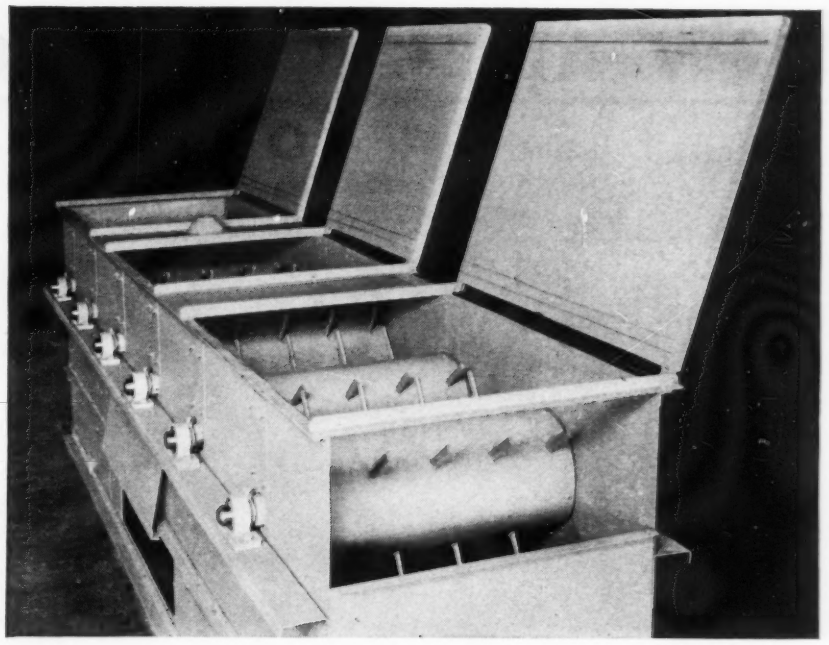
- New York, N. Y. 185 Madison Ave.
- Chicago, Ill. 940 Merchandise Mart
- Greensboro, N. C. Guilford Building
- Reading, Pa. Reading 6262

THIS GARMENT MADE OF
Durene
(2 PLY MERCERIZED COMBED COTTON)
Absorbs and evaporates perspiration twice as fast as garments made of ordinary cotton yarn*... EXTRA comfort, health protection and cleanliness.
*Tests by U. S. Testing Co.

SPINNERS MERCERIZERS DYERS BLEACHERS S-C-T

STANDARD DURENE · SELO · PREEMO · COMBED SAKS · THREADS · COMBED PEELERS ·

BUILT BY THE CENTRIF-AIR MACHINE CO., INC., *this Superior Cleaner (Patented) can be operated as a complete independent unit following bale openers and blending hoppers or as a supplement to present Centrif-Air Cleaners, Vertical Openers, Buckley Beaters, Lattice Openers, Platt Openers, etc.*

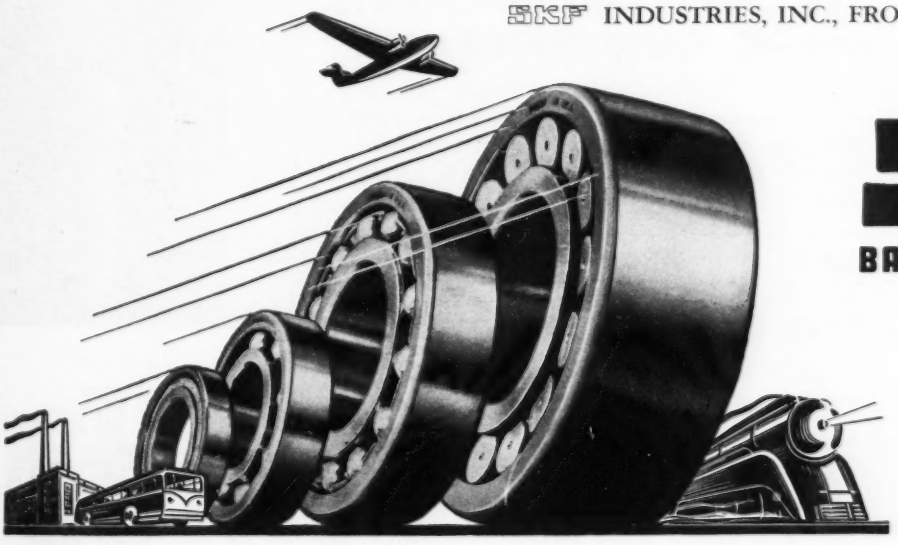


Easy to See

EASIER TO PROVE

IT'S easy to see why this Superior Cleaner (Patented) opens, cleans and conveys long staple and upland cottons, rayon, mixed rayon and cotton, and mixed cotton and wool *without bearing trouble.* Six of the 12 dustproof SKF Pillow Blocks on this machine are in plain sight. Inside them are SKF Bearings assuring clean, smooth performance with only occasional lubrication. Where there's an SKF there's no bearing trouble. 4821

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.



SKF

BALL & ROLLER BEARINGS

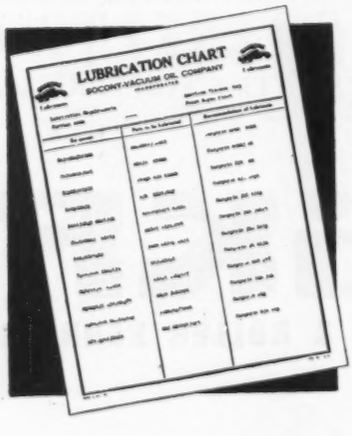
NEW AMERICAN VISCOSE PLANT

U.S.A.'s Largest 100% Gargoyle

ACRES OF GLEAMING NEW MACHINERY...a capacity of 50,000,000 lbs. per year! The new American Viscose Plant at Front Royal, Va., is the largest and most modern viscose rayon producing plant in America.

And every machine is lubricated with Gargoyle Lubricants—as recommended by Socony-Vacuum engineers!

This fact is significant. For the same experience that works to give American Viscose complete lubrication protection—will work to help your plant reduce costs.



SOCONY-VACUUM CHARTS GUIDE OPERATORS

In the new American Viscose Plant—Socony-Vacuum charts are posted by machines. They eliminate confusion from verbal instructions; list the Gargoyle Lubricant for each machine, and the exact way it should be applied.

SOCONY-VACUUM OIL CO., INC. • Standard Oil of New York Div. • White Star Div. • Lubrite Div. • Chicago Div. • White Eagle Div. • Wadhams Div. Baltimore Div. • Magnolia Petroleum Co. • General Petroleum Corp. of Calif.

CALL IN Socony-Vacuum for

AT FRONT ROYAL, VA.

Rayon Plant Lubricated!

THESE TURBINES, lubricated by Gargoyle D. T. E. Oils, power the American Viscose Plant. Together they form one of the largest industrial power plants in the South.

GARGOYLE

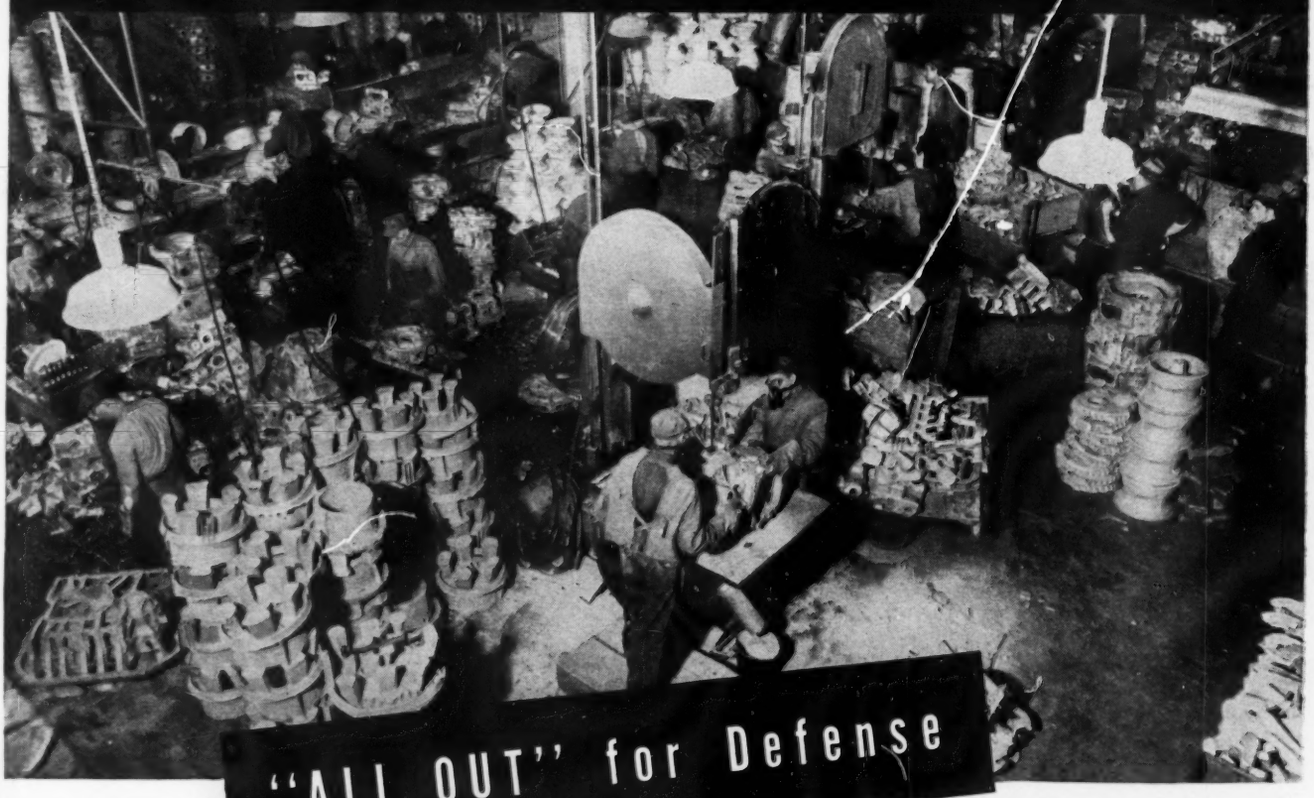
Lubricants

"Correct Lubrication"

MAZLO

MAGNESIUM ALLOYS

THE LAST WORD IN LIGHTNESS



"ALL OUT" for Defense

MAZLO fabricating plants are beehives of activity these days. Manufacturing facilities have been increased, operating hours lengthened, until today production is *twenty times* the normal peace-time demand experienced in 1938.

Because Magnesium weighs only one-fourth as much as iron, Magnesium Alloys are vitally important to the success of our National Defense program. MAZLO sand castings, permanent mold and die castings, forgings, tubing and extruded shapes are contributing to the greater efficiency of defense equipment.

Throughout the years in which the demand for Magnesium was small, fabrication "know how" was acquired, now making this large scale production possible. The price-per-pound was steadily downward. These developments will continue, to the profit of peace-time users of MAZLO Magnesium Alloys. Sales Agent: Aluminum Company of America, 1704 Gulf Bldg., Pittsburgh.

DEFENSE COMES FIRST

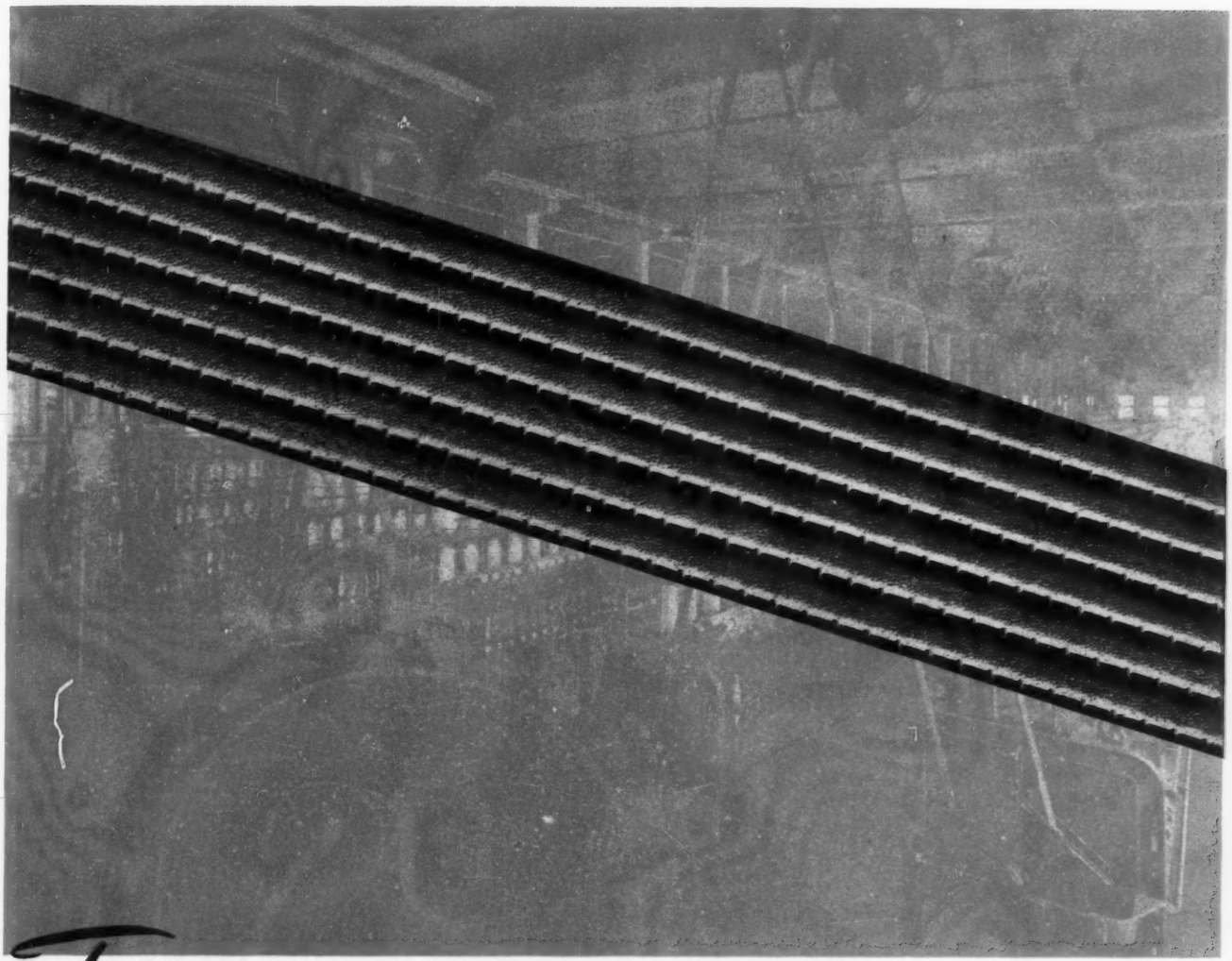
To meet the needs of National Defense, the American Magnesium Corporation, now a wholly owned subsidiary of Aluminum Company of America, is increasing its manufacturing facilities at a rate many times that required by normal peace-time markets. When the emergency is past there will be an abundance of the fabricated forms of magnesium alloys available for industrial uses.

Meanwhile, magnesium is helping to meet the national emergency.

MAZLO

REG. U.S. PAT. OFF.

AMERICAN MAGNESIUM CORPORATION



This belt increased Front Roll Speed

2 TO 5 TURNS PER MINUTE

The name "Houghton" has been identified with leather for 40 years. For textile strapping, packings, mechanical leathers and belting for all types of textile machines, you can't beat the Houghton trio— VIM, VIX and OKAY

That's interesting news to the man who wants greater spinning frame production . . . . and at no increase in cost. More turns per minute than with belts formerly used, is a common experience when Houghton's treaded belts are installed.

The patented treaded surface, exclusive with Houghton, gives better pulley grip, truer running on the pulleys. The exclusive tannage means longer life, softer grain, higher coefficient of friction —more power delivered with less slip.

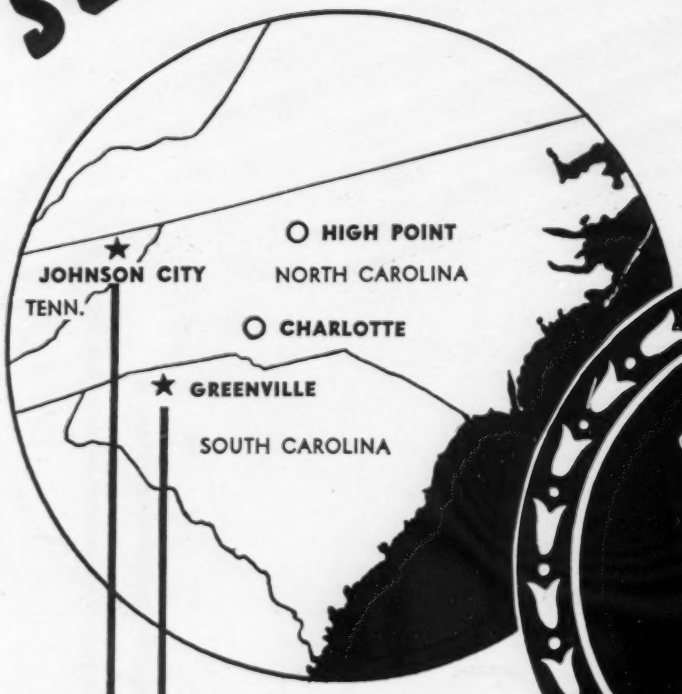
Mill men interested in these claims for extra front roll turns are invited to write for sample and full details.

E. F. HOUGHTON & CO.
Third & Somerset Streets, Philadelphia
1301-05 W. Morehead Street, Charlotte

TREADED *Houghton's* **LEATHER BELTING**

SERVING THE South

Our conveniently located plants and representatives offer quick service on quality textile specialties.



Greenville plant: Production center for automatic loom bobbins and warp bobbins since 1923.

Johnson City plant: Production center for cardroom bobbins and skewers since 1924.

Write, wire or phone to the nearest plant or representative.

U S BOBBIN & SHUTTLE CO.

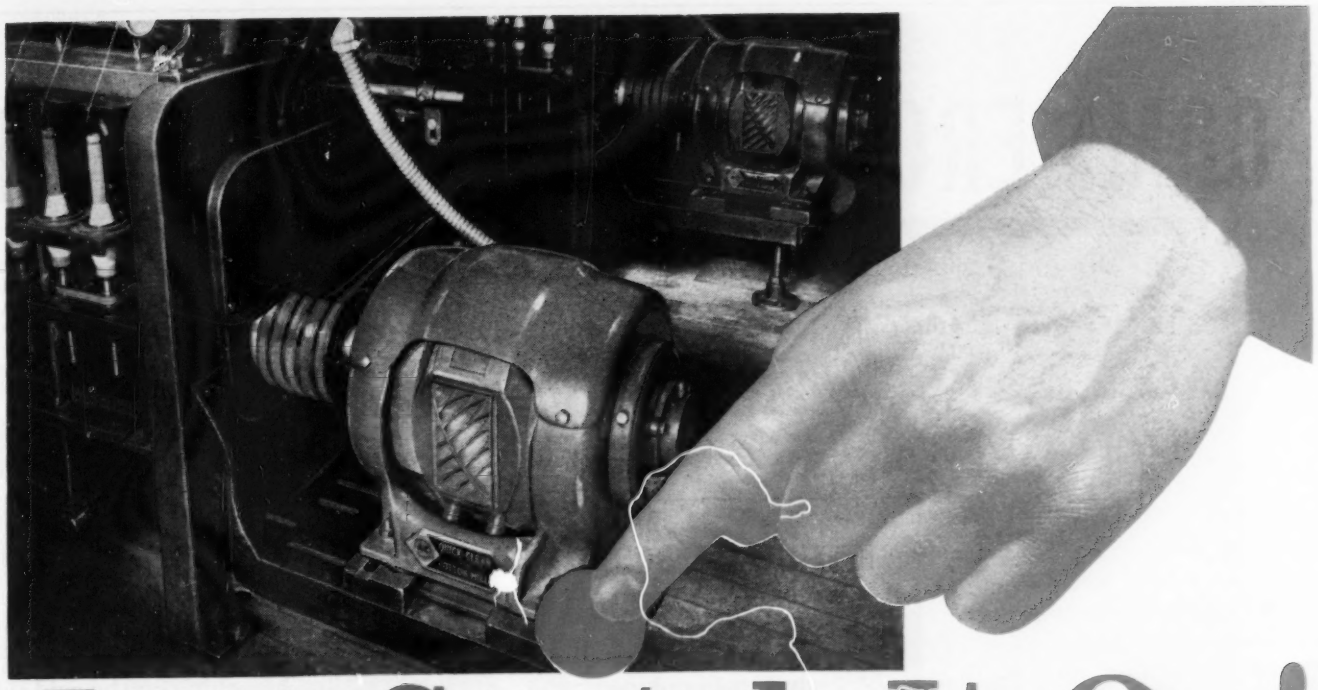
M. OUSLEY: Greenville, South Carolina

A. D. Roper
JOHNSON CITY, TENN.

E. R. Holt:
CHARLOTTE, N. C.

D. C. Ragan:
HIGH POINT, N. C.

BETTER BOBBINS • SPOOLS • CONES • SHUTTLES



Just Switch It On!

Allis-Chalmers Quick-Clean Motor is Especially Designed and Built for Textile Mill Use — to Beat Lint . . . Stop Shutdowns . . . Halt Power Leaks!

TIME LOST in your mill due to motor shutdowns is sheer waste! What's more—it's a loss you can avoid!

For, in the Allis-Chalmers Quick-Clean Motor, you get a motor that *can't* get clogged up with lint . . . a motor that operates at peak efficiency under the most severe textile mill conditions. Just switch it on — and you've got a motor you can depend on for years to come!

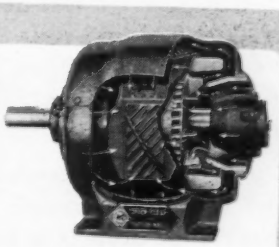
Best of all — here's a motor for which the textile industry has already shown a clear-cut preference. In hundreds of mills today, thousands of these motors are in daily use.

If you want to solve your motor problems . . . eliminate lint as a motor-menace . . . do a better job of powering your textile machinery . . . and *save money* doing it — use Quick-Cleans!

For complete facts, call the district office near you, or write Allis-Chalmers, Milwaukee, Wisconsin.

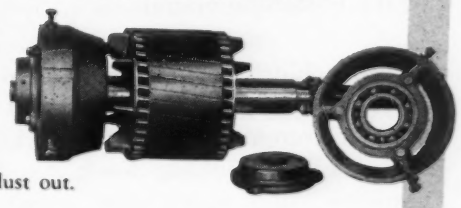
A 1390

HERE'S THE QUICK-CLEAN PRINCIPLE! Lint-laden air goes *in* and *out* through large, unobstructed air passages. All inside surfaces glass-smooth.



NO LINT CAN ADHERE to smooth, hard stator surfaces. All working parts dust-sealed. Distortionless stator is easily removable. Coils are shielded.

INDESTRUCTIBLE ROTOR is mounted on ball bearings in sealed cartridge units that keep oil in . . . keep dust out.



RIGID FOUNDATION for Stator and Rotor is provided by one-piece steel base and bearing support.

ALLIS-CHALMERS LO-MAINTENANCE MOTORS

COMMERCIAL SODIUM CHLORITE

New Bleach Produces High Whites... With Zero Loss in Tensile Strength!

MATHIESON SODIUM CHLORITE
$NaClO_2$

1. A flaked, semi-crystalline product.
2. Light tan in color.
3. Extremely soluble in water—40% by weight at normal temperatures.
4. Stable up to and including 150 degrees C.
5. Oxidizing power equivalent to 130% available chlorine.
6. Non-hygroscopic.

● Mathieson, traditional leader in the manufacture of bleaching materials, pioneers again in presenting an entirely new bleaching agent—Commercial Sodium Chlorite ($NaClO_2$). With this new product it is possible to bleach to a high degree of whiteness *without loss in tensile strength.*

Under present everyday bleaching methods some loss in tensile strength usually results. The best that can be done is to keep this loss to a minimum while obtaining a satisfactory bleach. But *now* you can use Mathieson Sodium Chlorite which *cannot injure* cellulose fibres no matter how concentrated the bleach solution or how high the temperature of the bleaching operation.

Sodium chlorite, a development of the Mathieson research department, is unique. It is the *only* dry sodium compound containing chlorine available for general bleaching work . . . 130% available chlorine, 30% more than pure chlorine itself. Extremely soluble in water, it is very stable, non-hygroscopic. It bleaches and oxidizes in acid *or* alkaline solutions—is now being used successfully in treating textiles, paper pulp, starch, straw, and other materials.

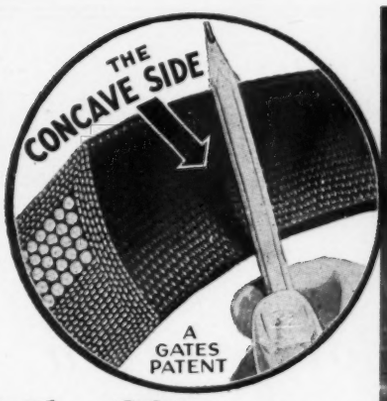
For example—in paper mills, it is being used for bleaching on the acid side and producing pulp of high quality which is supplanting Scandinavian. In textile mills it permits bleaching on the acid side without degrading the fabric. Textile mills add chlorite to the kiers, eliminating multiple boils and increasing capacity of existing equipment . . . equipment which has become doubly important in times of heavy production such as these.

In all of these applications sodium chlorite is remarkably economical. Because of its unique *selective* action, which enables it to bleach without loss in tensile strength, every pound of sodium chlorite does useful work. Because of its high stability, none is dissipated and wasted in the process. Thus, bleaching with sodium chlorite means not only a better product and increased plant capacity, but more economical production as well.

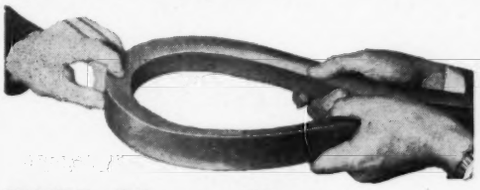
Drop us a line today for complete information on sodium chlorite. Our technical staff, the men who developed this amazing new product, will be glad to sit down with you and discuss how Mathieson Sodium Chlorite can help you with your bleaching problems.

MATHIESON CHEMICALS
THE MATHIESON ALKALI WORKS (INC.)
60 E. 42ND STREET, NEW YORK, N. Y.

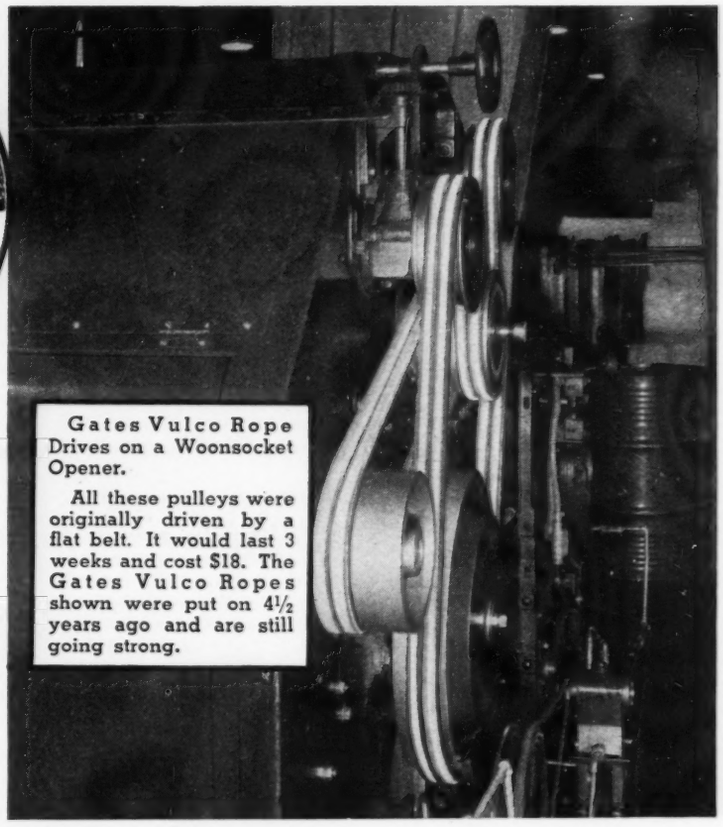
SODIUM CHLORITE PRODUCTS . . . SODA ASH . . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . LIQUID CHLORINE . . . BLEACHING POWDER . . . HTH PRODUCTS . . . AMMONIA, ANHYDROUS and AQUA . . . FUSED ALKALI PRODUCTS . . . SYNTHETIC SALT CAKE . . . DRY ICE . . . CARBONIC GAS



In Two Minutes
This Easy Test



Will Show You
How to
SAVE MANY DOLLARS !



Gates Vulco Rope Drives on a Woonsocket Opener.

All these pulleys were originally driven by a flat belt. It would last 3 weeks and cost $18. The Gates Vulco Ropes shown were put on 4½ years ago and are still going strong.

What Happens When a V-Belt Bends

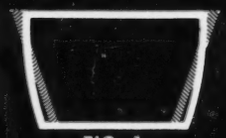


FIG. 1

FIG. 2

It's very easy to learn for yourself how a V-belt with a concave side saves your money.

Just take any V-belt and bend it (as illustrated in the photo above). As the belt bends, grip its sidewalls between your finger and thumb. You will feel those sides bulge outward.

If the belt is a straight-sided belt this bulging gives it a shape like that shown in figure 1 (on the left). Clearly this shape does not fit the sheave groove.

But when you bend a belt that is built with the patented Concave side, you find that the sides become perfectly straight—as shown in figure 2. Here are the advantages: This shape exactly fits the sheave groove; this means uniform sidewall wear—longer life for the belt. Also, the full side of the belt is gripping the pulley, which means less slippage—a saving in belt wear and also in power.

The concave side is a Gates patent. Only belts built by Gates are built with the concave side.

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

GATES VULCO ROPE DRIVES

CHICAGO, ILL. 1524 South Western Ave.
HOBOKEN, N. J. Terminal Building
BIRMINGHAM, ALA. 1631 1st Ave., South
LOS ANGELES, CAL. 2240 E. Washington Blvd.
DENVER, COLO. 999 South Broadway
DALLAS, TEX. 2213 Griffin Street
PORTLAND, ORE. 333 N. W. 5th Avenue
SAN FRANCISCO, CAL. 2700 16th Street

This is under no circumstances to be construed as an offering of these securities for sale, or as an offer to buy, or as a solicitation of an offer to buy, any of such securities. The offer is made only by means of the Offering Prospectus.

American Viscose Corporation

228,480 Shares 5% Cumulative Preferred Stock
(par value $100 a share)

1,568,000 Shares Common Stock
(par value $14 a share)

PRICES

Preferred Stock $107.50 per Share
plus accrued dividends from May 1, 1941

Common Stock $24. per Share

Copies of the Offering Prospectus may be obtained from only such of the undersigned as may legally offer these securities in compliance with the securities laws of the respective States

MORGAN STANLEY & CO.
Incorporated

DILLON, READ & CO.

MELLON SECURITIES CORPORATION *LEHMAN BROTHERS* *UNION SECURITIES CORPORATION*

THE FIRST BOSTON CORPORATION *HARRIMAN RIPLEY & CO.*
Incorporated
SMITH, BARNEY & CO.

BLYTH & CO., INC. *KIDDER, PEABODY & CO.* *CLARK, DODGE & CO.* *DOMINICK & DOMINICK*

GOLDMAN, SACHS & CO. *HEMPHILL, NOYES & CO.* *SHIELDS & COMPANY* *WHITE, WELD & CO.*

LAZARD FRERES & CO. *DEAN WITTER & CO.* *EASTMAN, DILLON & CO.*

MERRILL LYNCH, E. A. PIERCE & CASSATT *DREXEL & CO.* *HORNBLOWER & WEEKS*

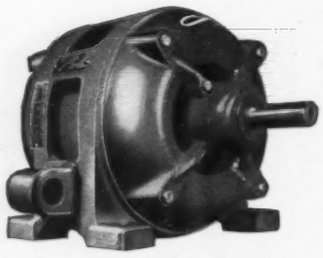
STONE & WEBSTER AND BLODGET
Incorporated

Dated May 26, 1941.

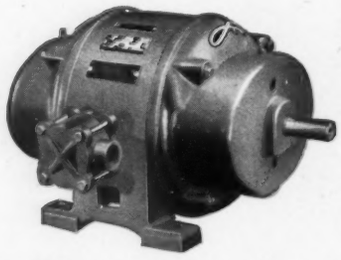
THE LOUIS ALLIS CO., MILWAUKEE, WIS.

LOUIS ALLIS

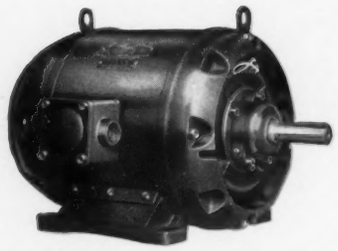
A Size and Type Electric Motor for Every Industrial Requirement



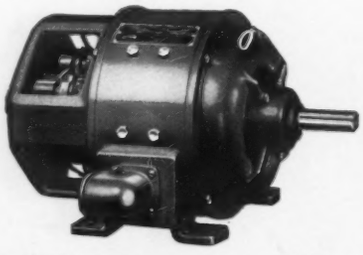
Standard open SQUIRREL CAGE polyphase motors are carefully engineered, precision built motors with rigid construction throughout and adequate insulation you can confidently apply to your toughest jobs.



SPLASH-PROOF motor. Designed and built from the ground up as a real splash-proof motor—full protection against acid spills—splashing liquids—high humidity. Completely protected by cast iron housing.

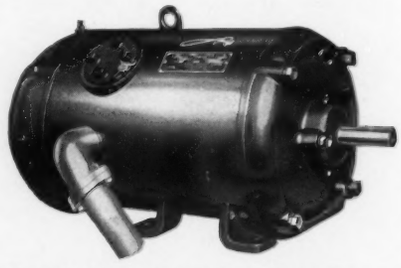


TOTALLY ENCLOSED FAN COOLED motors—for operation in atmospheres containing abrasive dust, corrosive fumes, dirt, oil, combustible dust, and similar conditions such as are usually found in machine shops, foundries, chemical plants, grain elevators, coal pulverizing plants, etc.

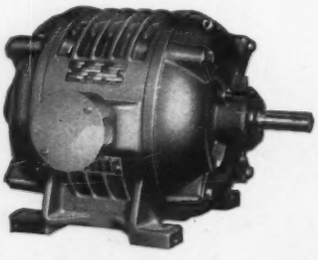


These DIRECT CURRENT motors are correctly engineered and precision built—available in a very wide range of both electrical and mechanical modifications. The extra rugged construction of these motors assures long life of dependable performance.

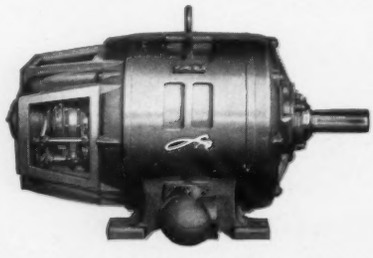
This PROTECTED D. C. motor has the same general construction features of the motor illustrated above. The specially designed protective end bell and armature coverings make this motor especially adaptable for use in coal mines, quarries, or where dropping particles may hit the motor.



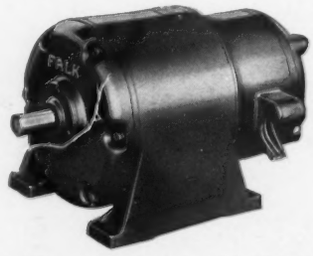
These Direct Current EXPLOSION-PROOF motors have been inspected and explosion-tested by the Bureau of Mines Laboratory. Also tested, listed and appoved by the Underwriters' Laboratories for all Class I, Group D explosive atmospheres.



A complete line of enclosed NON-VENTILATED motors is available in a wide range of mechanical and electrical characteristics. These motors are ruggedly constructed with solid cast iron housings to withstand severe treatment on difficult jobs.



These WOUND ROTOR (slip ring) motors are ruggedly constructed throughout. A wide range of speed variations are obtainable with comparatively simple control. Available with mechanical modifications for every industrial use.



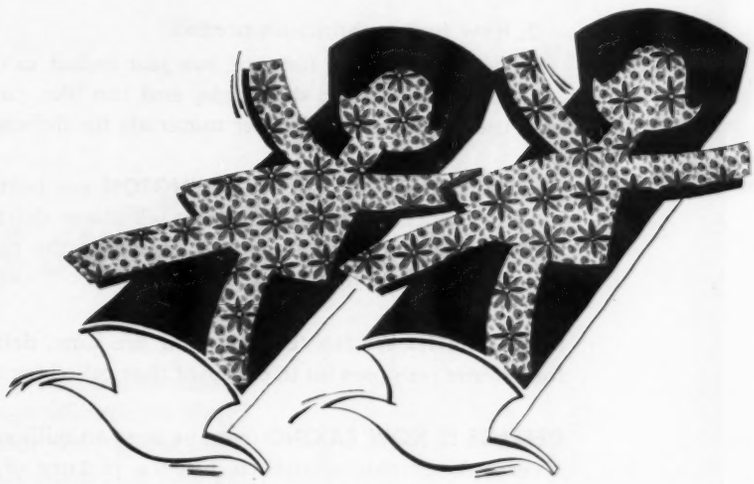
Louis Allis motors can be supplied with a very wide range of various types of gear reducers—integral—all-motor—gear-head—vertical—right angle or parallel—the proper drive for every industrial application.

No matter what your electric motor problem or requirement may be—we earnestly request your inquiry. Your needs will receive our most prompt and careful attention in every way.

THE LOUIS ALLIS CO., MILWAUKEE, WISCONSIN

ADVENTURES IN ARIDYE

*Identical Twins Could Not Be More Uniform than Aridye**



Yard after yard, day after day, Aridye prints come off the machines, printing with amazing uniformity of shade.

Uniformity is only one of the many advantages when Aridye Textile Colors are used. They are fast to washing, exceptionally fast to sunlight, and offer new bright colors, reproducing the engravings exactly.

Aridye Textile Colors more than meet the accepted standards of the industry. Many of them withstand over 100 hours in the Fade-ometer. Not only are they fast to washing, they are fast to light, crocking, fusing, dry cleaning, chlorine and hydro.

Millions of yards of cottons, dress fabrics, flannelettes, rayons and other synthetic fabrics have been printed in Aridye Colors with unusual uniformity of shade.

What is Aridye? Aridye Textile Colors consist of permanent and insoluble pigments suspended in an organic vehicle. This vehicle contains a water insoluble binder which adheres to the cloth and anchors the color permanently to the fibres.

The selection of the right pigment, the exact form of the pigment, the method of dispersing, and the tenacity of the binder—these have all been determined by thoroughgoing research to produce Colors of maximum fastness.

The new superior printing qualities of Aridye Textile Colors have won many enthusiastic adherents.

ARIDYE CORPORATION • FAIR LAWN, N. J.

ARIDYE BRINGS YOU THESE PRODUCTION ADVANTAGES

NO CHEMICAL AFTERTREATMENT • PRINTS IN FINAL COLORS • RAPID COLOR MATCHING
COLORS SHIPPED READY FOR USE • FEWER SECONDS

FAST TO WASHING
•
EXCEPTIONALLY FAST TO SUNLIGHT
•
NEW BRIGHT COLORS
•
UNUSUAL UNIFORMITY OF SHADE
•
ENGRAVINGS EXACTLY REPRODUCED

Aridye
TEXTILE COLORS

**Trade Mark Reg. U. S. Pat. Off.*

You Get All Aridye Advantages by Using Aridye Colors Reduced with Aridye Clear and Applied by the Aridye Methods

ALUMINUM, DEFENSE, AND YOU

ALCOA

3

IT IS EASY TO UNDERSTAND ABOUT ALUMINUM AND DEFENSE

THE WHOLE THING BOILS DOWN to two simple questions:

1. **How much aluminum** are America and England going to need?
   There is only one answer: The democracies must have *all the aluminum it takes to win,* and nobody knows how much that is.
2. **How fast** is aluminum needed?
   We don't know, for sure, but just as fast as the aircraft plants, munition plants, shipyards, and the like, can be expanded to use aluminum and other materials for defense purposes.

THOSE IN AUTHORITY IN WASHINGTON are putting together, day by day, expert estimates of what all these defense industries are going to need, month by month, clear to the end of 1942. These estimates, as issued, are our book of rules.

FOR MONTHS WE HAVE BEEN, and are now, delivering aluminum for defense purposes far in excess of that called for by prior estimates.

DEFENSE IS NOW TAKING from us over 40 million pounds a month. Every American ought to have a picture of just how much aluminum that is; here it is:

Peace-time America, during the nine years from 1930-8, could find use for only 14 million pounds a month from us.

In the busy year of 1939 we had to make only 27 million pounds a month to satisfy the civilian needs of this prospering country.

Suddenly, defense alone needs 40 million a month! 14 million (civilian), to 27 (civilian), to 40 (defense) and soon to 50 and beyond!

★ ★ ★ ★

YOU CIVILIAN USERS of aluminum are grand people.

THE WAY YOU ARE DOING WITHOUT aluminum until producers can catch up again with civilian uses is typically American. We are sincerely grateful for your understanding.

IN THIS RECESS you are having to scramble for **RECESSITIES**—other materials which just don't fill the bill 100%, because there is no pat substitute for aluminum.

IT'S TOUGH ON YOU and it's hard on us to have to turn away temporarily from the friends and pursuits of a lifetime.

WE HAVE NOT TURNED OUR BACKS!

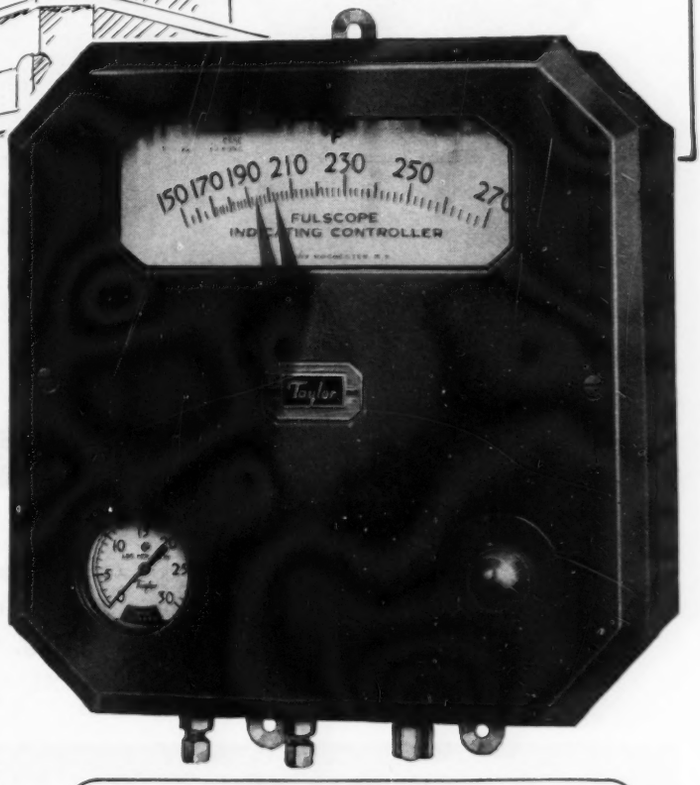
WE INTEND that no civilian shall have to forego the things aluminum can do best one minute longer than we can help.

ALUMINUM COMPANY OF AMERICA

THERE'S JUST ONE WAY TO DYE FOR THIS LADY

Dye according to specifications—rigid U. S. specifications about the exact color and permanent fastness of all cloth . . . You get good Government contracts on your dyeing, not your trying . . . To dye right, use Taylor Fulscope Controllers on your dye machines

TAYLOR FULSCOPE CONTROLLER
(Indicating Type)
for exact temperature control



TEMPERATURE troubles are viciously dangerous to profits these days. Take vat-dyed khaki, for instance. If the color's not *precisely* perfect, if it's not absolutely colorfast, Uncle Sam may say "not for me." You know that fluctuating temperatures can easily cause big troubles in dyeing. Don't risk uncertain temperature control! Use Taylor Fulscope Controllers.

Taylor Fulscope Controllers insure automatic accuracy in governing and guarding whimsical and critical temperatures on jig vats, continuous dye machines, package dye machines, in your raw stock dyeing, and your skein and piece dyeing of woolens and worsteds. Taylor Fulscopes keep temperatures *on the nose* throughout operations—you can't depend on your oldest expert hands for equal care.

Plan to keep on getting business from your toughest customer, Uncle Sam. Get full details about the Fulscope Controller *now*. Ask the Taylor man, or Taylor Instrument Companies, Rochester, N. Y. Also Toronto, Can.

Taylor

Indicating • Recording • Controlling

TEMPERATURE, PRESSURE, FLOW and LEVEL INSTRUMENTS

Now the AHCO LINE is MORE COMPLETE than ever . . . . . .

ARNOLD, HOFFMAN & CO. ACQUIRES PROVIDENCE DRYSALTERS DIVISION OF HERCULES POWDER CO.

AMONG the many new products which we are now able to offer as a result of this expansion, we direct your particular attention to the following:—

CONCENTAL — FOR COTTON and RAYON FINISHING

An acid type softener of organic origin, A COMPLETE softening agent suitable for 90% of cotton and rayon constructions and finishes and a wide variety of other finishing problems, it reduces inventory of oils and softeners. Highly concentrated (water content about 16%), it is completely soluble in warm water and will give comparable results with 50% to 75% less softener. It penetrates deeply and lubricates effectively, is easy to use, produces no scum, and is compatible with all starches, waxes, gums, and resinous finishes. It is highly stable and does not deteriorate with heat or age.

ULTROIL — AN IMPROVED CONCENTRATED, HIGHLY SULFONATED CASTOR OIL

A very stable penetrant for dyeing, and an efficient softening material for kier boiling and rayon boil-offs. Improves whiteness of fabrics, leaving them soft and well conditioned for further processing, and effects complete removal of lubricating oils from yarns and stock.

ARNOLD-HOFFMAN & CO., INC.

Established 1815 PROVIDENCE, R. I. Plant at Dighton, Mass.

NEW YORK • BOSTON • PHILADELPHIA • GREENVILLE • CHARLOTTE • COLUMBUS

AIR FURNACE *Metal*

Gives More for Your Money!

Extra strength in malleable fittings means that every joint in your piping systems will stand up longer, more dependably, without maintenance.

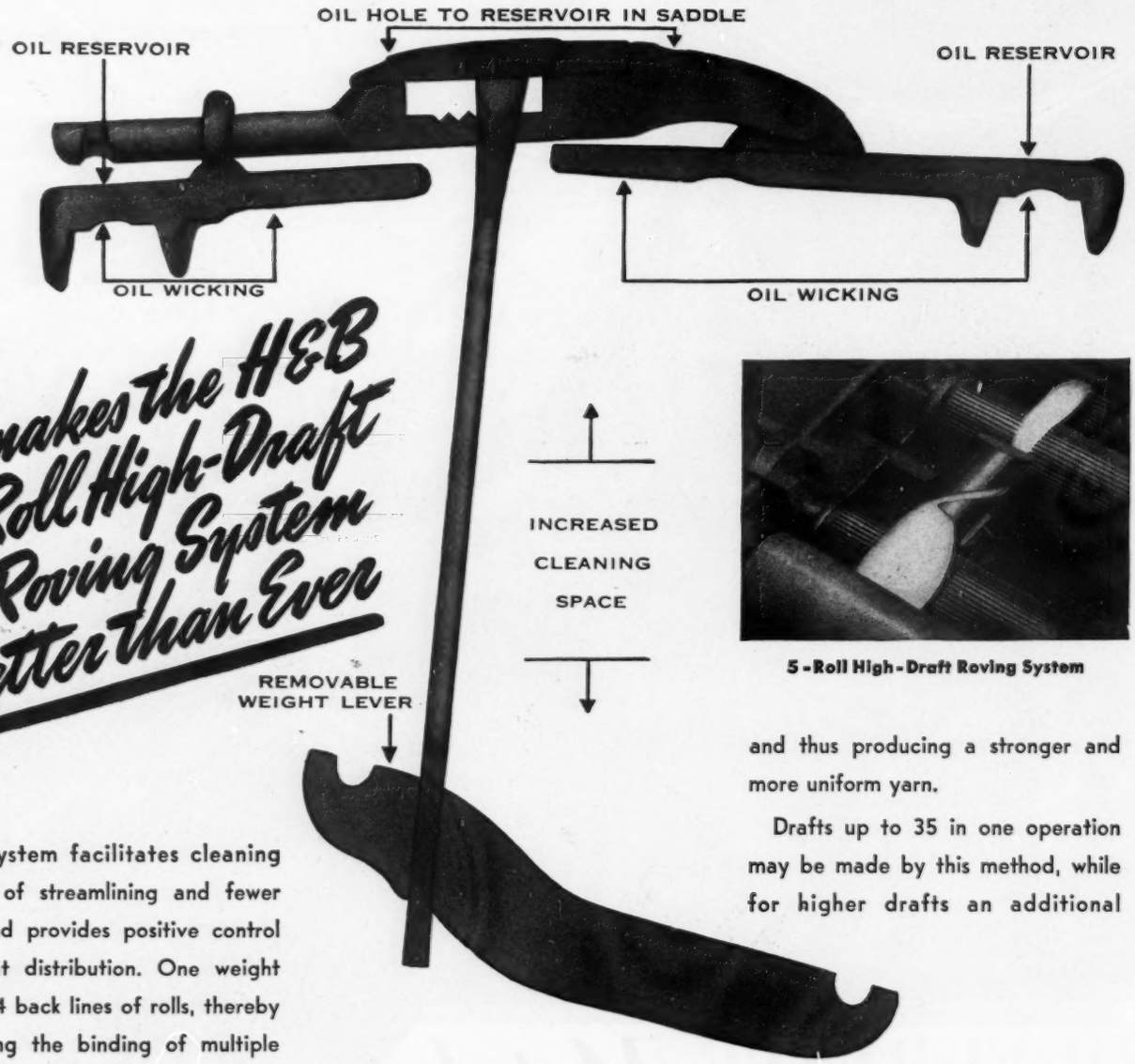
That is what you get, *at no extra cost*, when you specify Grinnell Malleable Pipe Fittings! Every one is made from superior malleable iron produced by exacting Air-Furnace process . . . 20% tougher, stronger than ordinary cupola-made malleable . . . more uniform in every detail of metal structure and finish.

Get this extra value throughout your piping systems with Grinnell Air-Furnace Malleable Fittings. Made in all standard types and sizes. Available everywhere through wholesalers, heating and plumbing contractors, and branch offices in all principal cities. Write for comprehensive catalog, "Grinnell Pipe Fittings". Grinnell Co., Inc., Executive Offices, Providence, Rhode Island.

AIR-FURNACE MALLEABLE IRON FITTINGS BY GRINNELL

WHENEVER PIPING IS INVOLVED

a NEW patented weighting system



It makes the H&B 5 Roll High-Draft Roving System Better than Ever

5-Roll High-Draft Roving System

This system facilitates cleaning because of streamlining and fewer parts, and provides positive control of weight distribution. One weight controls 4 back lines of rolls, thereby eliminating the binding of multiple weights under the roller beam. Lubricating method saves oil by controlling distribution and increases life of roller covering. The weight hook has a finger grip for releasing weight load on rolls and the weight lever may be slipped out of the stirrup to facilitate removal of the saddle. The stirrup design also provides maximum cleaning space.

The heart of this system remains the same,—our Patented Scroll Condenser (made of Bakelite to eliminate static) which gives the sliver a half turn of twist between the two drafting zones, folding in the outer fibres and thus producing a stronger and more uniform yarn.

Drafts up to 35 in one operation may be made by this method, while for higher drafts an additional process of conventional fine roving is recommended.

Investigate the possibilities of this system for your mill. It can be applied to any standard make of existing frame as well as our new frame.

• •

H&B AMERICAN MACHINE COMPANY
TEXTILE MILL MACHINERY
PLANT AT PAWTUCKET, RHODE ISLAND

BOSTON OFFICE: 161 Devonshire St.; ATLANTA OFFICE: 815 Citizens & Southern National Bank Bldg.; CHARLOTTE OFFICE: 1201-3 Johnston Bldg.

EXPORT DEPARTMENT: United States Machinery Co. 115 Broad St., New York, U. S. A.

★ DEFENSE NEEDS THE "SPEED OF Light"...

FOR MORE LIGHT... SAVE-LITE!

UP and down the production lines of America's defense plants, the call is for speed and more speed . . . light and more light!

That is why more and more defense plants are painting ceilings and walls with Save-Lite White. They find it the quickest, most economical way to boost plant lighting levels—and keep them high. Because *whiter* Save-Lite White reflects more light—more, in fact, than many silvered mirrors! Because Save-Lite White stays white longer . . . doesn't yellow or break down under strenuous plant conditions!

Find out what Save-Lite White can do for *you* in *your* plant! Get in touch with a Save-Lite technical representative. Or, send the coupon now.

NEW BOB-N ENAMELS Brilliantly colorful enamel for bobbins. One coat covers solidly. Rapid-drying. Extremely flexible coating stands up under harsh wear, hard knocks. Resists heat. Will not stain, rub off or bleed. Comes in 14 colors. Write for full particulars and color card.

QUICK FACTS ABOUT SAVE-LITE WHITE

1. It's a whiter mill white . . . stays white longer.
2. It reflects more light . . . diffuses it scientifically.
3. It costs less to apply . . . goes on easier, spreads further, covers better.
4. It costs less to use . . . stands up longer under strenuous plant conditions.
5. It's made in various types for specific purposes.
6. It is designed specifically for industrial use by highly trained technicians. Complete recommendations made without obligation.

FREE! SEND THIS COUPON!

THE SHERWIN-WILLIAMS COMPANY
106C Prospect Ave., N. W., Cleve., O.
Please send me your *Free*, 30-page, illustrated file folder — "Facts About White Paint and Better Illumination."

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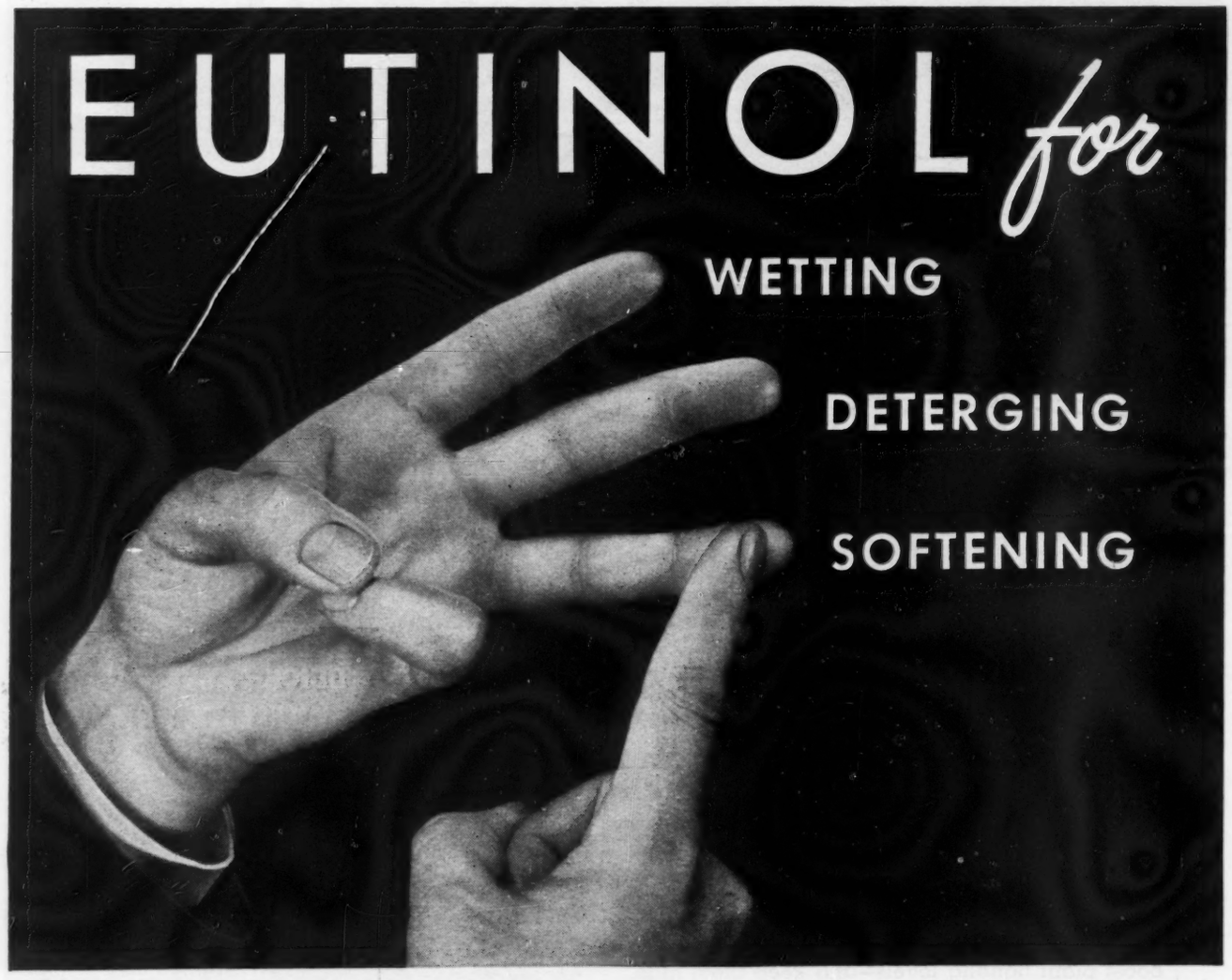
City_____ State_____

SHERWIN-WILLIAMS

SAVE-LITE WHITE

THE LIGHT CONDITIONING PAINT

Now...3 Efficient Processes in 1 Product



EUTINOL, another Jacques Wolf laboratory achievement for remarkable efficiency and real economy! EUTINOL simplifies print washing, yields better results. It's a 3 in 1 product, a concentrated fluid with *rapid wetting*, maximum *deterging* and *softening* properties. Can be used on *all* fibres and produces brighter, more lustrous colors and softer fabrics!

EUTINOL rinses freely and when used with soap increases its action.

EUTINOL has high cation-active, softening qualities combined with standard wetting and detergent features—qualities not heretofore produced successfully in combination. Actually *three* processes in *one!*

SULPHONATED OLEVENE

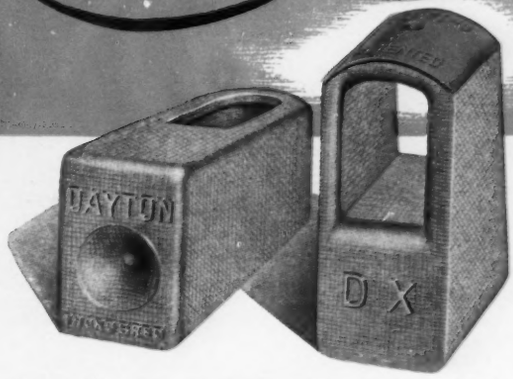
A perfected synthetic product that outmodes Olive Oil. Highly efficient and *less costly* than Olive Oil —odorless, non-oxidizing.

WOLF BRAND PRODUCTS

JACQUES WOLF & CO.

Chemicals PASSAIC, N. J.

WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Tenn., Knoxville, Tenn., Charlotte, N. C., Milwaukee, Wisc., Columbus, Ga. Midwestern Distributor: Bradley F. Marthens, Chicago, Ill.



THE THOROBRED LOOP PICKER

New flared bottom . . . rounded corners on front of picker . . . molded by new method to eliminate roughness. Keeps its shape and "stays put" on the stick. Has proper cushion. Easy to install. Proved long life and greater economy

THE THOROBRED LUG STRAPS

Freedom from adjustment and constant power maintenance assures increased production at lower costs. Thorobred Lug Straps have extra strength . . . proper cushion . . . desired resilience . . . and the ability to absorb shock. Never require adjustment and have long, trouble-free life.

Proved in actual Mill Service, the long-lasting Dayton De Luxe Picker saves up to 50% in picker costs! The special fabrics in this picker are two times stronger . . . the resilient rubber that bonds the fabrics together is much tougher and stronger. In fact, Daytons are the only pickers that stand the gaff on the new XP's, XL's and XD's.

And that's not all. All Dayton De Luxe Pickers are exactly alike—absolutely uniform. You can box the loom the same at all times. And once the loom is in parallel, it stays that way. Throwing a crooked shuttle is eliminated, and realigning time is saved.

Because of a new method of molding, this De Luxe Picker is so smooth that jerked-in fillings are reduced to a minimum.

Write today for all the details—or ask your nearest distributor about the De Luxe Thorobred Loop Picker.

THE DAYTON RUBBER MFG. CO.
Dayton, Ohio and Waynesville, N. C.
Dayton Loom Supplies are protected by U. S. Patents issued or pending.

DISTRIBUTED BY

GREENVILLE BELTING CO.	Greenville, S. C.
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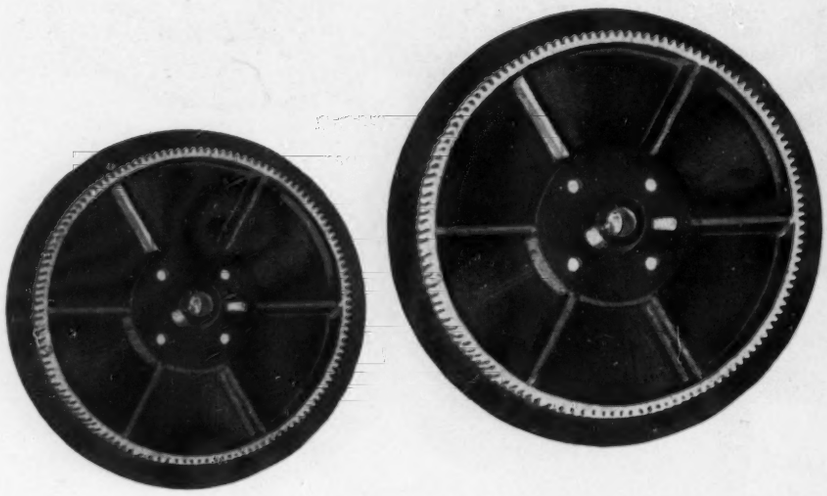
Dayton
Thorobred TEXTILE PRODUCTS
LOOM SUPPLIES—Dayco TEMPERED ROLL COVERINGS
Made by the World's Largest Manufacturer of V-Belts
Copyright 1941, The Dayton Rubber Mfg. Co.

LARGER BEAM-HEADS
Mean Bigger Profits!



PROVED—
By Performance

YES, There Is More Profit To Be Made By Investing In

LARGER BEAM-HEADS

Investment of money to equip your mill to run larger beam heads and longer warps will give an annual return of 40 per cent or more.

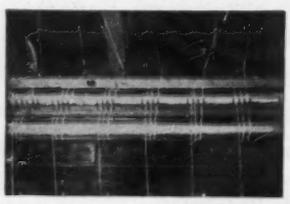
More yarn can be put on the beam with fewer run-outs on the loom. Fewer beams are handled, effecting a saving in the labor cost of slashing, tying-in, and placing beams in the loom.

Waste is reduced at both the slasher and loom. Loom efficiency is increased because looms run longer with less time out for changing warps.

These beam heads and beam barrels are superior in operation and economy.

We also manufacture special textile machinery, cloth room machinery, and textile repair parts.

Other QUALITY Products



THE BACHMAN GUIDE . . . eliminates heavy top rollers. "Blow Outs" reduced about 90%. Permits increase in twister speed.

LOOM BEAMS AND BEAM BARRELS . . . West Point loom beams and beam barrels are superior in their operation and economy.

GEARS . . . Gears of all types —noted for their efficiency and durability.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

LOP LOP DAYS

OFF YOUR PAINTING SCHEDULE!

U. S. Industry is prodding its production men. "Bend every effort towards accuracy and speed!" is the order.

Your workers need maximum light for best production efficiency. Yet a two- or three-coat paint job takes costly time . . . time you can ill afford. You need a mill white that does the job in double-quick time.

You need DULUX High-Hiding Mill White. It does most jobs with ONLY ONE COAT!

You speed up repainting with DULUX because the paint crew goes down the line *once*. The job is done much faster than if two or three coats were used. You save plenty on material and labor costs with DULUX, too.

You give workers brilliant light reflection with DULUX. DULUX reduces seconds . . . your production costs drop. And DULUX *keeps* its intense whiteness because it stays whiter and cleaner. And this whiteness retention of DULUX s-t-r-e-t-c-h-e-s the time between repaintings, greatly reduces paint overhead. Find out more about DULUX High-Hiding Mill White.

SEND IN THE COUPON TODAY FOR COMPLETE INFORMATION.

USE DU PONT REG. U. S. PAT. OFF. DULUX REG. U. S. PAT. OFF. HIGH-HIDING MILL WHITE

E. I. du Pont de Nemours & Co. (Inc.)
Finishes Div., Dept. C-61, Wilmington, Del.

Please see that I get complete information about DULUX High-Hiding Mill White.

Name.....

Firm Name.....

Address.....

City.....

State.....

5 YEARS . .

OF TROUBLE-FREE LOOM LUBRICATION

. . . since switching to TYCOL #264 GREASE

Here, trouble with head motion cylinder gears and picking shoes was a continual, costly handicap. Various products had been tried on this peculiar but important lubricating job — without success. Recommended greases had one common fault; they did not retain their body. Result — washed grease, a tendency to splatter off the shoes and fall on the warp.

Tide Water #264 grease corrected the trouble. Costly experimenting is a thing of the past. 400 looms have been running trouble-free for more than 5 years. Now head motion gears are also lubricated by this grease and no longer is there metallic dust in the gear box, thanks to the protective film of lubrication which this grease provides.

Learn of the complete line of Tycol Textile Lubricants which have been developed and proved in service on looms, spinning frames, knitting machines and the like. From the complete Tycol line there is one to meet each of the various textile machine needs — engineered to fit the job precisely. Send for a copy of the new practical Tide Water Textile Lubrication Booklet. It will help you in choosing the correct lubricants to fit your specific needs.

Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY

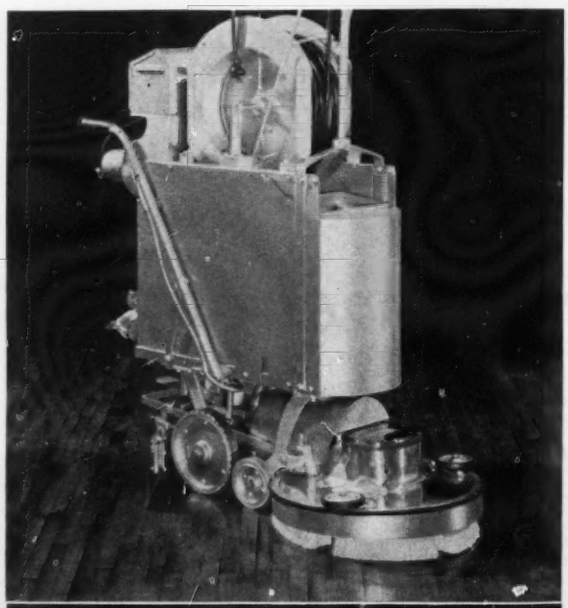
EASTERN DIVISION

17 Battery Place • New York, N. Y.

INDUSTRIAL TYCOL OILS-GREASES

Here's a Combination of Advantages You Can't Afford to Overlook . . .

In connection with FLOOR MAINTENANCE



☆ **A SINGLE SOURCE OF SUPPLY FOR EVERYTHING YOU NEED,—**

Cleansers, Finishes, Accessories, Equipment . . . *one responsibility* for the proper and most economical maintenance of all the floors in your building.

☆ **JOB-FITTED SCRUBBERS AND POLISHERS**

From the complete *Finnell* line — 49 floor-maintenance machines in all — you can choose not only the model that best serves your needs, but also the size that effects the greatest saving.

☆ **CLEANSERS, SEALERS, AND WAXES OF EVERY REQUISITE TYPE**

. . . including the famous *Finola*, the Original Scouring Powder; *Solarbrite* Soap Solution; *Gloss Seal* (several types); and *Finnell-Kote*, the solid wax (applied hot) that sets in less than ten seconds.

☆ **EXPERT COUNSEL**

. . . by men who *know* floors and their proper care . . . men who share the practical knowledge gained during *Finnell's* more than one-third century of specialized experience in treating and maintaining all types of floors.

☆ **A NEARBY *FINNELL* BRANCH**

In keeping with the *Finnell* policy of rendering an individualized service, to expedite that service, and to be readily available for floor surveys, demonstrations, and consultations, *Finnell* maintains branches in all principal cities of the United States.

For a dependable, money-saving solution to your floor-maintenance problems, have a chat with the nearby *Finnell* man. No obligation. Phone nearest *Finnell* branch, or write Finnell System, Inc., 1306 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.

Pioneers and Specialists in FLOOR MAINTENANCE EQUIPMENT

LINEN Finish on SPUN RAYON and COTTON!

Sandoz

FINISHED with Sandoz LINEN FINISH S, spun rayon and cotton acquire the appearance, extra body and the actual feel of linen. ★ Goods when surfaced with LINEN FINISH S, present a cool, crisp, full hand with excellent draping qualities. ★ LINEN FINISH S, while a distinctly specialized treatment, is easily applied on the quetch, padder, tenter, or any other finishing equipment. It produces a semi-permanent finish requiring no high temperature drying.

SANDOZ CHEMICAL WORKS INC.

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SANDOZ

BOSTON, MASS. CHARLOTTE, N. C. PATERSON, N. J. PHILADELPHIA, PA. PROVIDENCE, R. I. CHICAGO, ILL. LOS ANGELES, CAL.

The ELECTRO-MATIC FILTER in the TEXTILE INDUSTRY

Electro-Matic Air Filter protection against smoke, soot and dust—in dyeing, bleaching, finishing and drying operations—has saved the Textile Industry many thousands of dollars formerly lost by spoilage, streaking or discoloration.

The Electro-Matic combines electrical precipitation as an integral part of an automatic air filter for highest cleaning efficiency, and offers advantages not found in any other air cleaner on the market today. A postcard will bring you literature and complete information on how the Electro-Matic can save you money. Write today!

AMERICAN AIR FILTER CO., INC.

Incorporated

268 Central Ave., Louisville, Ky.

HERE ARE A FEW OUTSTANDING USERS

Archer Hosiery Mills — *Columbus, Ga.*

S. W. Card Mfg. Co. — *Mansfield, Mass.*

Cloverdale Dye Works — *High Point, N. C.*

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Statesville Cotton Mills — *Statesville, N. C.*

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Thank You

Textile Industry of America

Frankly, we are amazed at the rapid acceptance American Textile Manufacturers have given Nopco "99" Soaps.

When we developed these soaps our chemists told us they were outstanding — we believed they were outstanding . . . but, we wanted to know how would the textile industry receive them . . . how would they react under actual mill conditions? We have our answer. The combined judgment of textile mills from coast to coast proves we were right.

Temporarily we are selling to the limit of our soap producing capacity!

New machinery is under construction to greatly increase our production of Nopco "99" Soaps. Shortly, this equipment will be in operation.

If you have not tried Nopco "99" Soaps, we ask your indulgence for but a short while. We ask you to bear with us until we are able to show you too why these exclusive patented soaps have exceeded our fondest sales dreams.

Yes, Nopco "99" Soaps are going over big—we are sure once you have used these finer soaps, you will see why.

A Few Reasons why sales of Nopco "99" Soaps are the fastest growing in the industry.

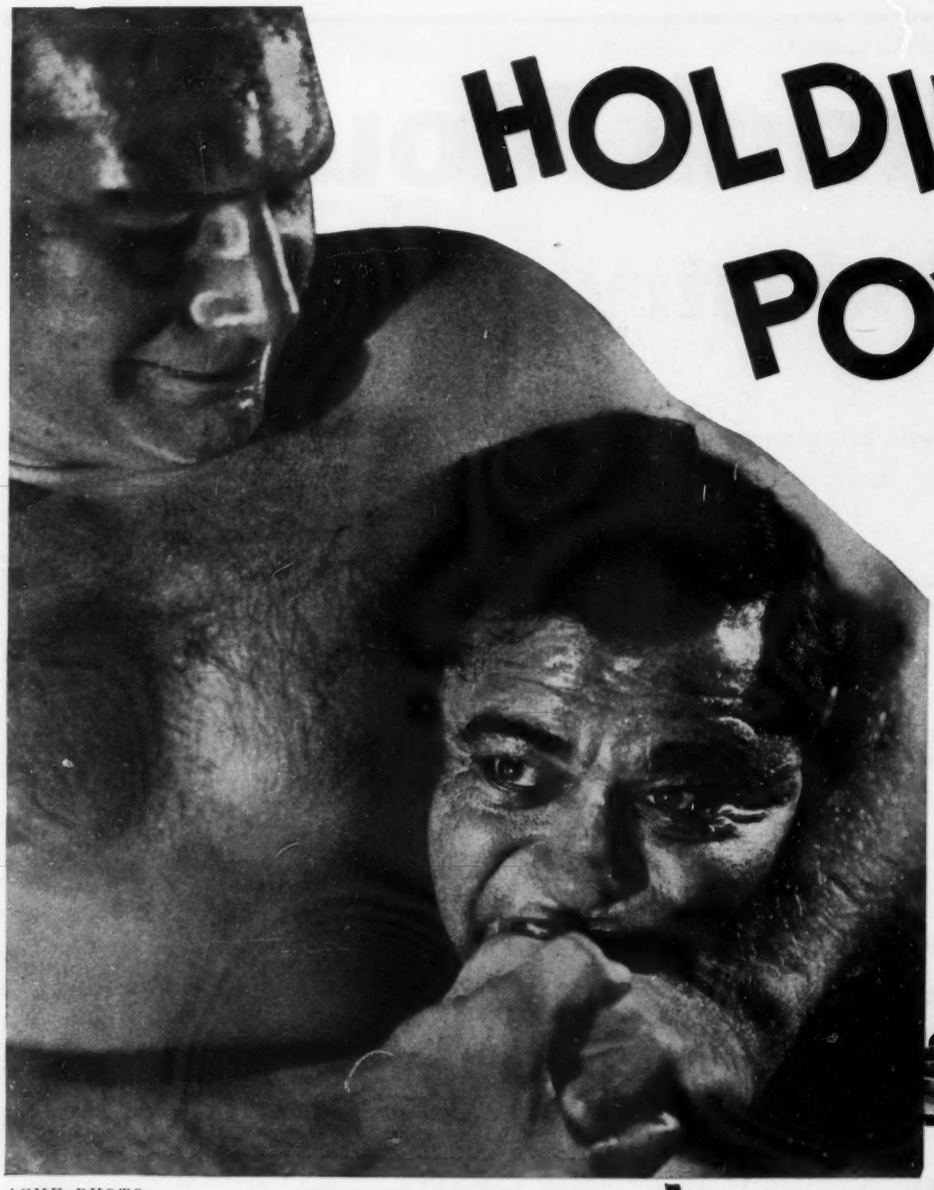
- Contain No Fillers
- Minimum of Free Alkali
- Gentle to Fabrics
- No Moisture "Pick Up" During Storage
- Save Storage Space
- Easier to Handle
- Uniformity of Specification

NOPCO
REG. U.S. PAT. OFF.
"EVOLVED THRU RESEARCH"

NATIONAL OIL PRODUCTS COMPANY

BOSTON • CEDARTOWN, GA. • **HARRISON, N. J.** • CHICAGO • LOS ANGELES

HOLDING POWER!



ACME PHOTO

PATENTED

A throttle-hold on any tendency to work loose! . . . is the famous characteristic of "Unbrako" Self-Lockers.

Just set them up with no more than average effort and the ingenious knurled points automatically dig in with a grip that prevents working loose—a wonderfully inexpensive and efficient insurance against breakdowns, stoppages and repairs. Can be used over and over again.

Maintenance men in many of the largest mills are standardizing on "Unbrako" protection.

A note on your letterhead brings free samples and details . . . or better yet, next time you order, *be sure to specify "UNBRAKO"!*

UNBRAKO

SELF-LOCKING HOLLOW SET SCREWS with the KNURLED POINTS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. FOX 582

— BRANCHES —

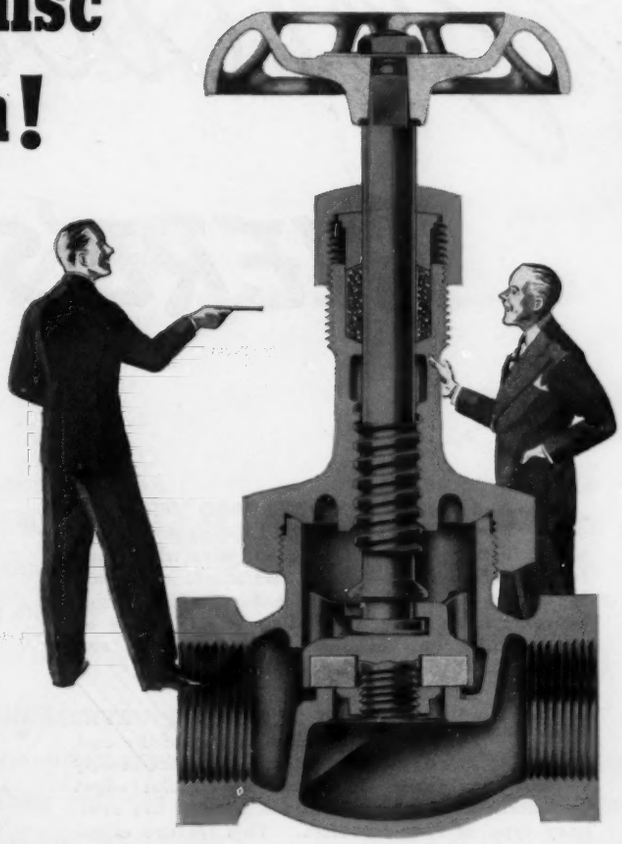
BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

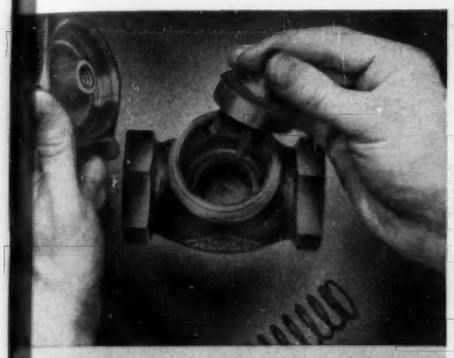
Reg. U.S. Pat. Office

UNBRAKO *Screw Products*

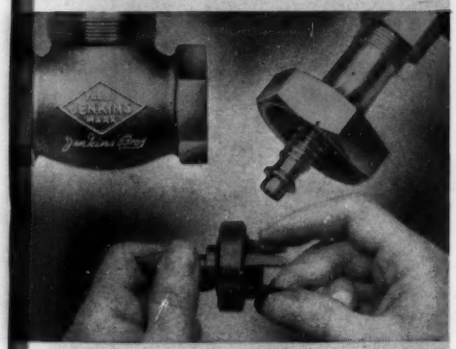
Something BIG

has happened in renewable disc valve design!





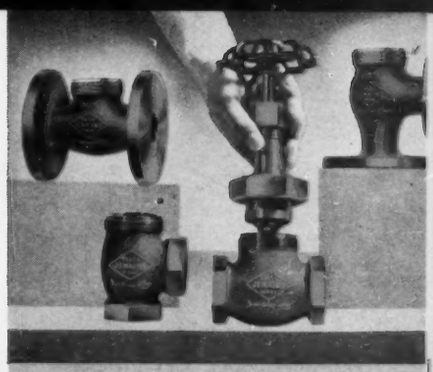
For lift check service, globe or angle bodies can be fitted with Cap, Disc Holder and Disc Holder Nut from Fig. 117A. For spring-loaded service, simply add Spring from Fig. 655A.



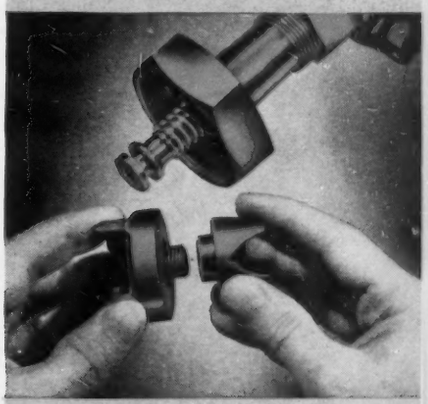
For stop and check service, use 106A trim but substitute Spindle from 630A and replace nut with check valve disc nut.

For all these valves, pick the discs *exactly* suited to each of your services. There are a wide variety of Jenkins Disc compounds from which to choose.

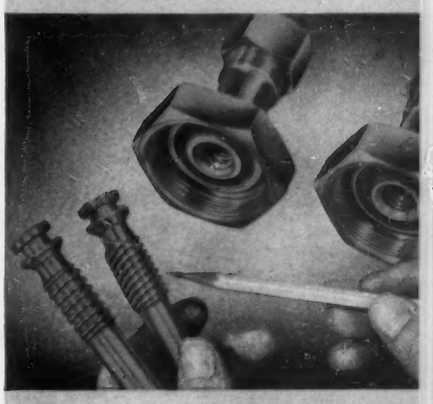
. . . something important to both executives and engineers. It is the Jenkins 106A family of Bronze Valves—each valve matched to the service, each valve type matched to the others



1 To appreciate the interchangeability of J kins 106A family, start with standard 10 trimming. It is exactly the same for globe angle body, screwed or flanged.



2 If the valve is to be used for close contr simply remove the nut which holds the disc the disc holder and replace with this Thro ing Nut, Fig. 344.



3 For services requiring quicker opening a closing, simply substitute this Bonnet a Spindle from Fig. 942 in which the thre are pitched more sharply.

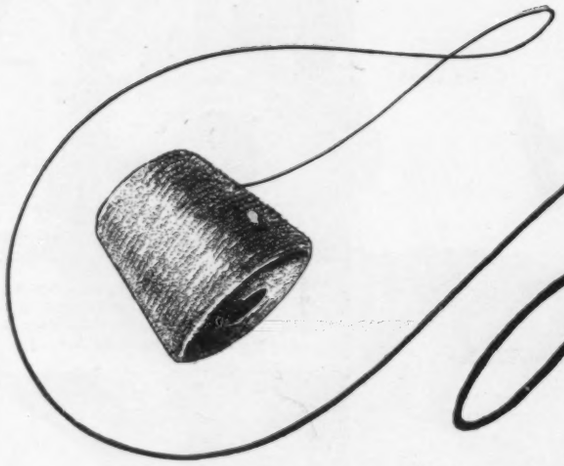
Look over this 106A valve . . . interchange its parts . . . see how you can adapt this valve to practically any service without removing the body from the line. Then you'll be convinced that when Jenkins says VALVE FEATURES it doesn't mean "gadgets".

Shown here are several important features that take but a moment to analyze. Briefly, Jenkins 106A family permits you to: 1—Standardize buying for 90% of industrial piping; 2—Get drop-tight service; 3—Speed maintenance; 4—Minimize stock carrying. In connection with this valve, if you will send your name and address on a post card to Dept. V, 80 White Street, New York, N.Y., we will send you free a gold-plated valve charm for your watch chain. Jenkins Service Representatives have a demonstration kit to show how, with 4 bodies, you can make 26 different types of valves.

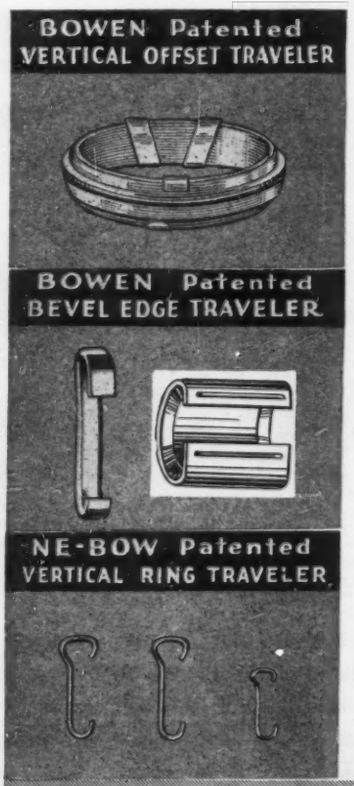
Don't forget, the average labor cost for replacing a valve is $2.50. Granted that these Jenkins 106A Valves cost a little more at first . . . but at the end of a year or two they will show a net saving . . . and then go on giving trouble-free service for years to come. You can get them in stock from reliable supply houses everywhere.

JENKINS BROS., BRIDGEPORT, CONN.

LOOK TO *Jenkins* FOR THE BEST IN VALVE DESIGN



For Every Yarn THERE'S A TALE



The BOWEN PATENTED VERTICAL OFFSET TRAVELER has proven its worth in the twisting of cord and plys where uniformity of twist elongation and increased breaking strength are important factors. This design prevents a gripping or binding effect, giving an even tension, an evener rounded product and longer life to the traveler.

The BOWEN PATENTED BEVEL EDGE enables the swirling of the end, in passing through the traveler, to produce ideally smooth even yarn. There are no angular edges to flatten the end, which is not true of the ordinary type of ring travelers. This feature eliminates split ends in the throwing of rayons and silks, and does away with fly waste in the spinning and twisting of cotton, wool, worsteds, asbestos and kindred fibres.

The NE-BOW PATENTED VERTICAL RING TRAVELERS have been developed to meet the particular needs of the silk and rayon trade in the process of throwing, due to the adoption of the vertical ring, particularly of the lubricating type. When a traveler of this type is at rest, it will lock on the outer upper surface of the ring, preventing the unthreading of the end, due to excessive twist as required in silk and rayon yarns. The creeping of the traveler by the twist imparted in the end is retarded, preventing the kinks which are so detrimental in the promotion of quality products.

Sealed metal containers guarantee that your U. S. Travelers will reach you in perfect condition, with no tampering or loss in count.

UNIVERSAL RING

BOWEN ROUND POINT TRAVELERS
BOWEN SQUARE POINT TRAVELERS
BOWEN IMPROVED VERTICAL BRONZE
BOWEN PATENTED BEVEL EDGE
BOWEN PATENTED NE-BOW VERTICAL
BOWEN PATENTED VERTICAL OFFSET
BOWEN FLAT OVAL AND ROUND WIRE TRAVELERS

...to be Spun
...TO BE TOLD ———

—it's a tale that has become a veritable Aesop's fable to hundreds of textile mills during the past quarter century—the story of U. S. Ring Travelers' readiness to handle every new type of yarn.

And it's the same tale with each fast-paced year, each overnight development in new yarns and fabrics. For the U. S. Ring Traveler Company has been, and always will be, ready with a new series of precision-made, efficiency-tested ring travelers, to keep step with each new development in the industry.

That's why so many of the country's leading mills rely entirely on U. S. Ring Travelers. For they've a uniformity of weight and shape to retain correct tension required to produce good yarn, they don't overheat, they stay securely on the frame at high speeds, and there's *always*...

"a Traveler for Every Fibre"

U. S. RING TRAVELER CO.

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Pres. and Treas.

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William H. Rose, P. O. Box 792, Greenville, S. C.
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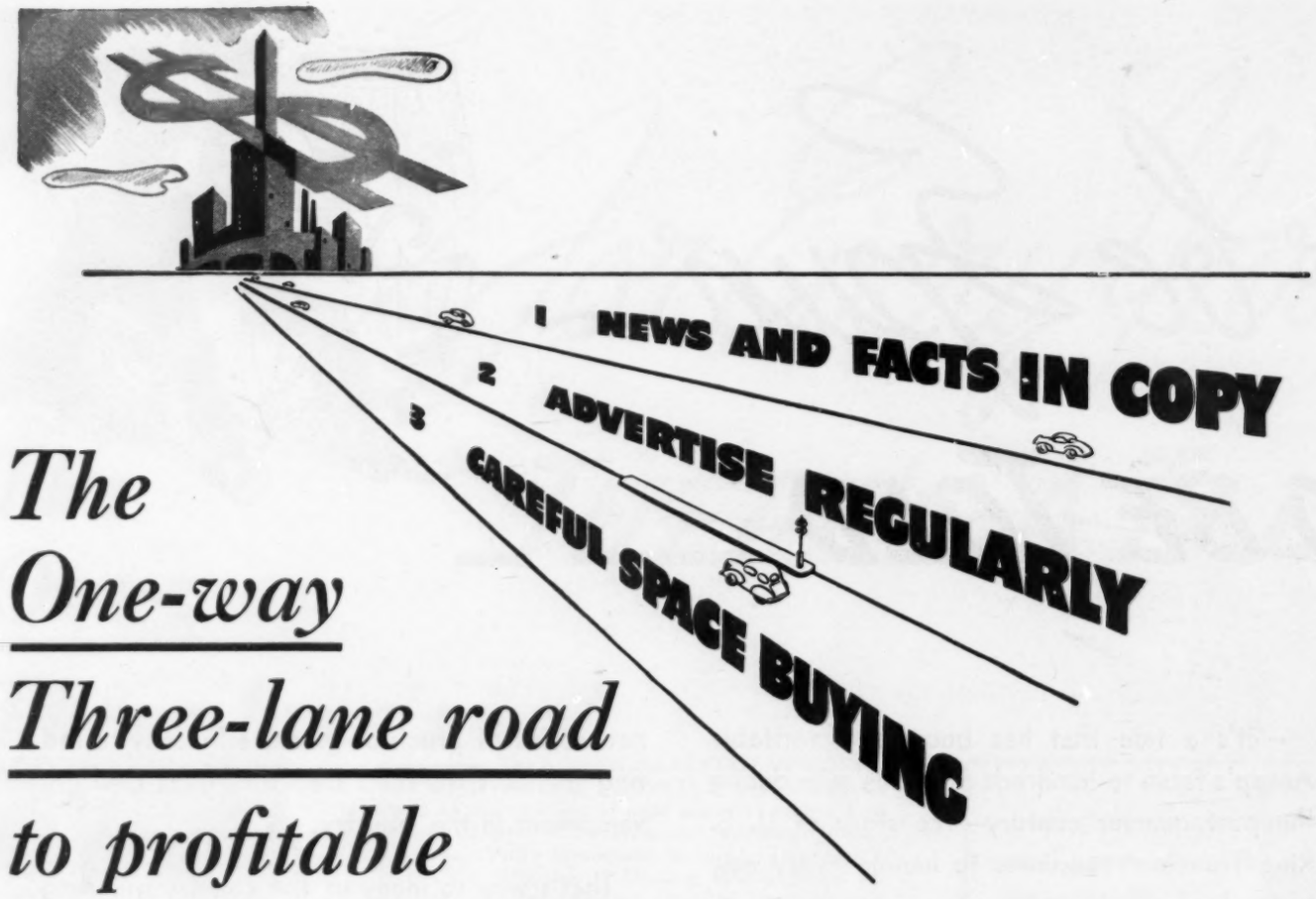
U.S. RING TRAVELER CO.

STANDARD TRAVELERS



The One-way Three-lane road to profitable Business Paper Advertising

Successful business paper advertising calls for the application of these three basic principles:

1 Make your advertising copy clear, concise, complete and informative. People read business papers to get business information. Give them facts and news about your products and services.

2 Advertise regularly. Do what your successful salesmen do—call on customers and prospects consistently.

3 Buy space carefully. Select media only on the basis of audited values and thus protect your advertising investment. Guesswork is wasteful and expensive.*

*Reports issued by the Audit Bureau of Circulations tell you how much circulation a publication has; where it goes; how it's obtained; an occupational or industrial analysis of subscribers; and what the subscribers paid for it.

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COTTON

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A. B. C. = AUDIT BUREAU OF CIRCULATIONS = **FACTS** AS A MEASURE OF CIRCULATION VALUES

Cottons come to full bloom

when you use

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for soaping

dyed or printed goods

Check the improvements in results and the saving in time made possible by MODINAL D, new double-strength fatty alcohol sulfate. In the case of cotton goods, the following outstanding advantages are obtained:

BRIGHTER DYEINGS *and prints are obtained by the full development of colors.*

CLEARER WHITES *are produced on prints.*

ELIMINATES SCUM FORMATION *due to acid or metallic salts carried over into the soap compartment.*

RINSING MADE EASIER; *careful control not essential with Modinal D.*

SANFORIZING BLANKET *does not accumulate deposits—Modinal D saves time.*

▶ May we send you full information or have one of our experienced technical men call to discuss the money-saving advantages of this modern synthetic detergent?

*"Modinal" is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulfates.

GARDINOL CORPORATION • General Offices, Wilmington, Delaware

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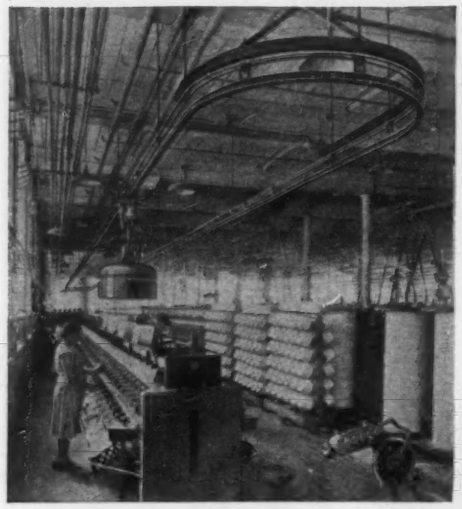
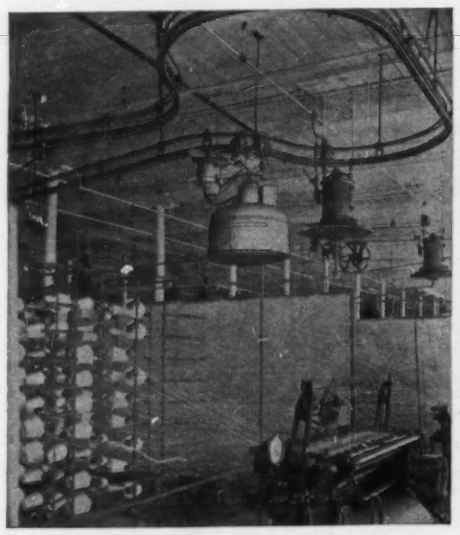
You get more good yarn from modern machines with –

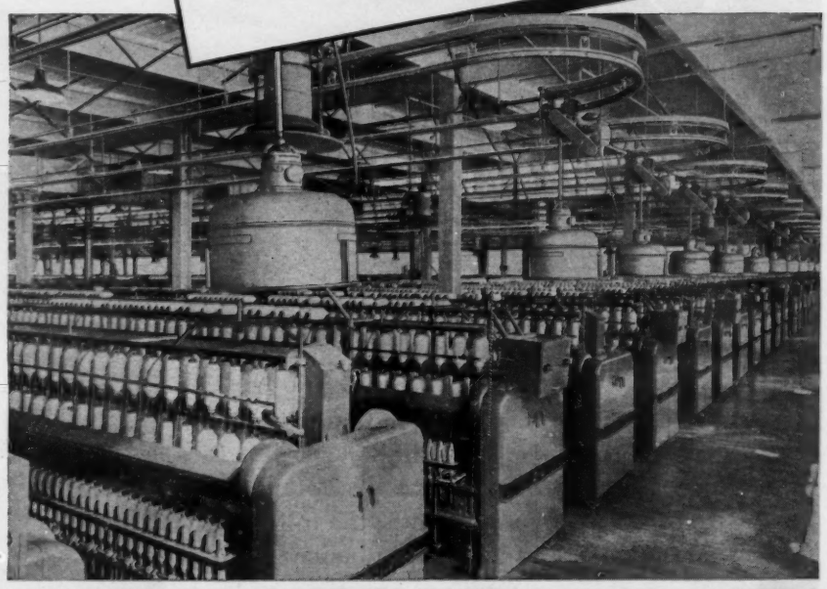
Controlled CYCLONIC Cleaning

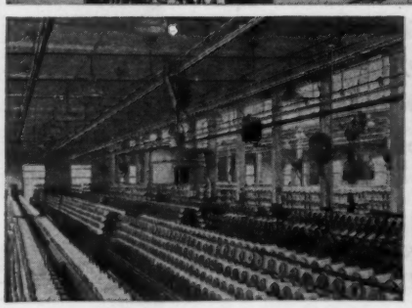


Clean yarn from winders means less breakage hence few bad transfers on the warpers.

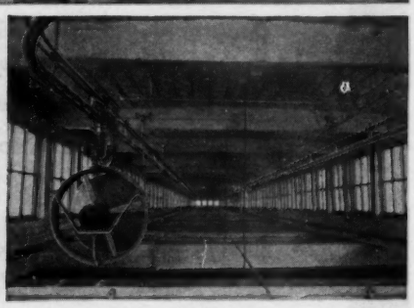


Every stop means lost production. Clean yarn keeps high speed warpers running smoothly.





Swirling columns of air circulate around cones to prevent lint accumulation.



High velocity fan travels within the monitor to keep this section clean.

Long draft spinning, together with modern high-speed twisting, winding and warping machines, all throw out more short fibers and thereby set up a lint problem.

Hand cleaning is costly since it limits the number of sides a spinner can handle and is the means whereby gouts get into the yarn.

Automatic cleaning with swirling currents of air, carefully directed, removes lint before it can accumulate. This means continuous production of clean yarn which in turn keeps subsequent machines operating at capacity. Let an American MonoRail engineer explain further advantages. Write for copy of 24 page book.

AMERICAN MONORAIL

OVERHEAD HANDLING EQUIPMENT

13106 Athens Ave., Cleveland, Ohio

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COTTON
Textile Industries

Volume 105 JUNE, 1941 Number 6

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LOYD B. CHAPPELL, Auditorium Bldg., 427 West 5th St., Los Angeles, California. (Tucker 9363).

ARTHUR C. SHAW, P. O. Box 31, Wellesley Hills, Mass. (Wellesley 3648).

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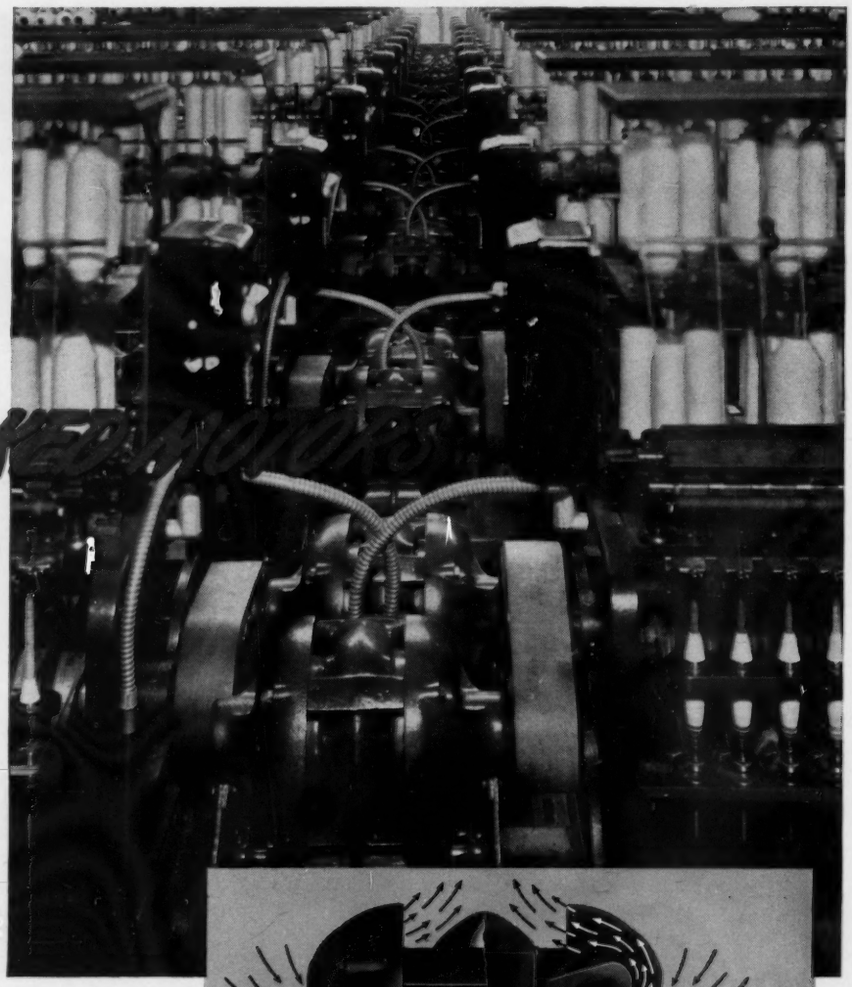
There'll Be NO LINT-CHOKED MOTORS In This Mill



WESTINGHOUSE LINT-FREE MOTORS CLEAN THEMSELVES

Unobstructed Passages Let Air Circulate

Westinghouse engineers designed the Westinghouse lint-free motor with large generous air passages. The inner surfaces of the end brackets are sanded, filled and finished smooth with a special high-gloss, hard-drying enamel. There are no pockets or corners in the passages where lint can catch. Lint goes in, through and *out*. The windings, too, are finished smooth as glass to prevent the accumulation of lint.

Ball Bearings Are Permanently Sealed

Sealed bearing construction permits the use of a smooth, rounded bearing housing without grease fittings or other projections on which lint might catch. And since no external lubrication is required, over-greasing and the use of dirty or improper lubricant is eliminated. Also, with lubrication maintenance eliminated, there is no chance for drops of grease or oil to collect on the housing and provide spots on which lint can stick.

Air circulates freely through the unobstructed air passages of this lint-free motor. Note the sealed ball bearing construction that eliminates lubrication maintenance and permits the use of a small, smooth, round bearing housing.

Leading textile mill operators throughout the country have been quick to recognize the time and cost saving advantages of this special textile motor. If you don't have full details on how you, too, can use it profitably, see your Westinghouse representative soon. J-21114

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Westinghouse Lint-Free Motors

Overloads can't cause motor failures and loom shutdowns where Westinghouse "De-ion" Loom Switches are on the job. Bi-metal overload protection with unchanging accuracy—a feature of Westinghouse motor control—takes the motor off the line automatically before damage can occur.

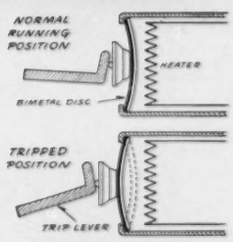
Quick-make, quick-break operation, in addition, gives assurance that "De-ion" Loom Switches will continue on the job indefinitely without need for attention due to burned or pitted starter contacts caused by slow-make operation or excessive arcing. "De-ion" arc quenchers snuff arcs out almost instantly.

It will pay you to investigate the added advantages of "De-ion" Loom Switches that give added insurance against unnecessary shutdowns. Write today for details and prices. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., Dept. 7-N.

..Here's why!

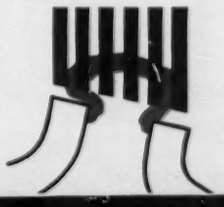
Bi-metal Protects Motor

Accurate, unchanging Bi-metal overload relay takes motor off line automatically before overload can damage it.



"De-ion" Arc Quenchers Protect Contacts

Arcs are confined, divided and quenched in ½ cycle. Dangerous flashover is prevented . . . contacts last longer.



J-21157

Westinghouse

"DE-ION" LOOM SWITCH

LEADERSHIP

From its hilltop it looks out over the capital city of a mighty nation. It has seen that nation riven by bitter civil strife — it has seen partisanship and sectional prejudice consumed in the white fire of united patriotism. To less-favored nations it is an inspiration — a promise that government of the people, by the people, for the people shall not perish from the earth. The Capitol at Washington is the symbol of America's LEADERSHIP in the arts of peace; and, if need be, in the arts of war.

Symbol of leadership in dyes and chemicals for the Textile Industry is the Ciba trade mark; a promise of quality maintained by unremitting research.

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They are dispersed to insure good running qualities, maximum color yield and sharp, smooth prints.

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SHORTS AND REMNANTS

First-Class Chef Available

● Readers of "Cotton" desiring a good barbecue chef can get in touch with William P. Vaughan, P. O. Box 792, Greenville, S. C. As a side line, Mr. Vaughan does some selling for U. S. Ring Traveler Company. The above picture taken at Anna Maria, Fla., by Jack Roy of B. S. Roy & Son Company.

◆

Misinterpretation

It's all in the way you look at it. In the May issue of COTTON, you may have noted in the story of the American Cotton Manufacturers Association annual meeting, on page 73, a photograph of Mr. W. M. McLaurine, secretary and treasurer of this organization, making his address. As we reported it to him, unkind friends commented on the attitude of his distinguished audience by saying that apparently Mr. Fred Symmes was asleep, General Gregory reading and George Sloan yawning. Our editor received the following reply from "Mr. Mac":

". . . but my friends misinterpreted it altogether. Fred Symmes' pose is one of rapt attention, even to closing his eyes so he will not be disturbed by any outside influences. General Gregory, after listening to me for awhile, is very much disturbed about his speech and is trying to doctor it up so it will be in a class with mine, and anyone who knows George Sloan knows that his pose is characteristic when he is giving his undivided attention to a discussion."

◆

Interesting and Valuable

". . . For many years I have been a reader of your publication and I find it more interesting and valuable each year."

F. L. STILL

Superintendent
Exposition Cotton Mills Co.
Atlanta, Georgia

We Beg Your Pardon

"On page 63 in the April issue of 'Cotton', under the heading 'Nylon Is Now Made in Canada', there are two things wrong with the insertion. First, this heading leads you to believe that nylon yarn is manufactured in Canada, which is not the case. Nylon stockings are produced in Canada. Secondly, as production manager of Belding Corticelli, Ltd., Montreal, Canada, you have my name badly distorted as same should be R. H. Kayser, and thought you might consider that correction. I incidentally would like to add that we greatly enjoy your publication and especially the way you present the news of the industry, and information on the latest developments in textile machinery."

R. H. KAYSER

Copies Loaned Out

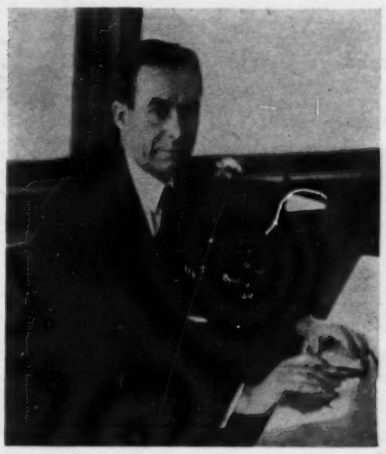
"When they approached me for copies. . . . I found that I could not put my hands on very many, having loaned them out to individuals with marked articles."

P. W. PEELER

Gen. Supt.,
Lincoln Mills of Ala.,
Huntsville, Ala.

Rooke Heads A. B. P.

William J. Rooke, president of the W. R. C. Smith Publishing Company, Atlanta, was elected president of Associated Business Papers, at the annual meeting of that organization at White Sulphur Springs, W. Va., on May 17. The A. B. P. is "a national organization of business publishers devoted to increasing their usefulness to their subscribers and helping advertisers get



a better return on their investment." It includes the leading publications of the country with paid circulation.

The W. R. C. Smith Company publishes "COTTON (Serving the Textile Industries)", *and* Southern Power & Industry, Southern Automotive Journal, Southern Hardware, *and* Electrical South.

Knitter Hints

A double-page presentation of the right and wrong way to handle cones of knitting yarns, as carried in our April issue, had a notation in very fine type offering to send reprints on this spread to interested mills. Among those who requested reprints for their employees and bulletin boards were officials and superintendents of such mills as:

Archer Hosiery Mills, Columbus, Ga.; A. W. Wheeler & Son, Inc., Brevard, N. C.; Stimpson Hosiery Mills, Inc., Statesville, N. C.; Carroll Silk Hosiery Mills, Inc., Hillsville, Va.; Virginia Maid Hosiery Mills, Inc., Pulaski, Va.; Princeton Knitting Mills, Watertown, Conn.; Jones County Vocational School, Ellisville, Miss.; Royal Hosiery Company, Inc., Rothsville, Pa.; Hudson Silk Hosiery Co., Charlotte, N. C.; Spalding Knitting Mills, Griffin, Ga.; Climax Hosiery Mills, Athens, Ga.; and Real Silk Hosiery Mills, Indianapolis, Ind.

Cross Indexes

A subscriber in Scotland who has kept his copies of COTTON for many years writes for an extra copy of the November issue which he did not receive, "probably due to circumstances over which at present we have no control." His use of the annual Cross Index is mentioned in an interesting way:

"Many a time I have been sent abroad for my company and difficulties have arisen that I knew were so openly discussed in COTTON. I always take my index with me, as I cannot carry volumes of the journal itself around, and if I should require any particular article, I send home for it."

◆

Roof Construction

"Sometime ago I was reading an article on a new type of roof construction for textile mills. . . . I am very interested at the present in securing more data on same."

H. H. ROBBINS

Asst. Supt.,
Compania Textilera Ariguanabo, S. A.
Bauta, Cuba.

◆

"Sizing Hosiery"—$.20

"I noticed where you have a valuable pamphlet on Sizing Hosiery from Full-Fashioned Machines. I would like very much to have one if they are still available."

ROBERT L. ADAMS

Adams Millis Corp.,
Tryon, N. C.

◆

"Battery Filling"

"In further reference to the study which you have just made, let me first thank you for giving me the opportunity to participate and be among the first to have the results. . . . I wonder if you could send me reprints on the thesis (battery filling) written by the member of Mr. James' office which appeared in COTTON?"

FRED F. PHILLIPS

V. P. Buck Creek Cotton Mills,
Siluria, Ala.

With "Cotton" at Greenville Show

● Rounding out the recent series picturing "Cotton's" staff and also the one picturing Miss America, we take pride in presenting Mr. L. E. Allen, Western Manager of "Cotton" and associated with us for almost 20 years in the Chicago territory, along with Mrs. W. J. Rooke. As the wife of "Cotton's" president, Mrs. Rooke herself is a long-time attendant at Greenville shows.

SHORT CUT TO PROFIT

● The diagram below shows you why finishers of colored yarn fabrics have adopted the new DEGOMMA Finishing Process.

By this process—which is possible only through the use of colorless, odorless DEGOMMA—finishers are eliminating a costly washing and drying, for with DEGOMMA a finishing material can be added directly to the desizing bath. The resulting fabrics are of quality equal or superior to fabrics obtained by conventional methods.

Adapting the plant-proved DEGOMMA Finishing Process to meet *your* mill condition is a service gladly offered. Our representative will go into full details. Call him in immediately or write us directly.

DEGOMMA PROCESS
USUAL PROCESS
PAD ON DESIZER → BATCH → WASH → DRY
ADD FINISH → DRY →
PAD ON DEGOMMA → BATCH → DRY →
(CONTAINING FINISH)
FINISHED GOODS

CHECK ON DEGOMMA ... AND SAVE

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COTTON
SERVING THE
Textile Industries

Vol. 105 June, 1941 No. 6

We All Must Help and Sacrifice

THE UNITED STATES has entered a production race with a nation which has no strikes, no trouble with increased wage demands from workmen who don't want to carry their share of the national burden; a nation where everybody works at what he is told to work at, and as many hours as he is told to work, and for what wages he is told he can have.

We have got to win this production race. There is no question about that in the minds of practically everybody—we have simply got to win it. At the present time the United States has hardly struck a winning stride in this race. We have done pretty well, but not nearly well enough. Nobody can truthfully claim that we have done well enough when nearly a million men since the first of this year have refused to work in their country's defense, and several million more have threatened to refuse to work unless they were paid better for helping to save their own skins.

Beyond any doubt, the people of this country have got to get over the boondoggling complex of the last eight years and realize that there are now forces at work which mean business and unless we can meet those forces and overcome them the United States is going out of business. In this production race we are now excelling in producing strikes and confusion. The Secretary of Labor has complacently remarked that only a relatively small handfull of men are involved in strikes. With 49 million people employed, one-half million on strike is only one per cent—a mere bagatelle. Such optimism is inexcusable. Those who have struck against their country in its time of peril have been mostly workers in key industries. To say that the number is small is to minimize a terrible danger. If the boy who has his arm stuck in the dike goes on strike, the whole structure collapses, and even though this protector of the dike should be the only person on strike in a whole territory, his malingering can destroy the territory. If a dozen men in some strategic bottleneck can render ineffectual the work of a thousand dozen who need their assistance, then it is fatuous to an extreme to contend that since only a dozen men are striking, the matter is of no consequence.

The mental attitude behind these strikes indicates that the majority of organized working people are either terribly indifferent to the role they must play in national defense, or they need to do something about the attitude of the leaders of their organizations. An extremely illuminating insight into the apparent attitude of the organized working people of the country is given by the statement issued by the heads of the railroad unions in connection with their drive for a 30 per cent increase in pay. In view of the fact that railroad people are among the best paid in the world, and that many of them are now grossly over paid in proportion to the work and responsibility involved, an increase of 30 per cent sounds a bit fantastic. Two or three months ago there were strikes for five per cent increase in pay. Then the coal miners came along with a demand for about 15 per cent. Following that, 200,000 automobile workers struck for 20 per cent. Now we have the railroad workers—a million or more—stoutly demanding 30 per cent.

THE REASONS advanced for this 30 per cent increase are almost staggering in their implication. Quoting from *Associated Press* dispatches, the railroad unions state:

"The wages of railway employees are rapidly dropping below wages paid men in other industries.

"Soaring prices and the general increased cost of living, including rents and taxes imposed upon employees, are important factors in the situation.

"In four years the productivity of railroad men has increased 43 per cent without any increase in compensation.

"Railway employees suffered tremendously from the business depression which engulfed the nation in the early '30's and they feel they have a right now to share in the profits accruing to the railroads as a result of a general increase in the business of the country."

According to this statement, the unions controlling the railroad employees are flatly warning the people of the United States that the members of their unions are not willing to carry their share of the defense burden, but expect to have their wages increased enough to compensate for any taxes which must be levied to provide for our defense. The public is also notified that the railroad employees expect to continue their present policy of taking it away from the railroads a little faster than the railroads can make it, a

policy that has been successfully followed ever since the World War.

If the productivity of railroad men has increased 43 per cent in four years, this has been done against their violent objection. A few years ago they were trying to get Congress to pass a law to prevent the railroads from doing the things that have made this increase in productivity possible. Furthermore, without these things being done, many more railroads would have gone bankrupt.

The statement that the wages of railroad employees are rapidly dropping below wages paid by other industries merely proves that there is already too much inflation by unwarrantable wage raises, and now the railroad people are going to double up on this inflation by demanding their share of it.

The wage increases granted by General Motors run about 50 million dollars a year. It is estimated that if the railroad workers are granted 30 per cent increase, this will add 168 million dollars a year to the consumers' bill. The terrible thing about this is that it gets none of us anywhere. One group simply tries to catch up with the other. If this wage increase for the railroad people is granted, it means higher freight and passenger rates, and growls and grumbling from millions of other working people that their wages must be raised to compensate for the increase in the cost of living. The demands of the railroad workers are merely cited here as an example, because they are a little more exorbitant than usual. because they are even less justifiable than demands of some other groups of people, and because the reasons advanced for these demands are so clearly indicative of the rising tide of inflation.

IF THE organized working people of the United States flatly refuse to carry their share of the defense burden, then who is going to carry it? The organized workers, while greatly in the minority, occupy key positions which permit them to block completely the entire defense program or anything else that they want to block. The demands of the railroad workers typify the entire trend of the past six months. The organized working people of the United States have served notice on everybody that if they are going to help in the defense of this country they not only expect to make no sacrifices, but they expect to make distinct gains at the expense of the rest of the public.

This is a situation which simply cannot prevail if this country is going to continue to exist. A country cannot be defended by a people who refuse to defend it. It is as clear as anything can be clear that this country cannot be defended unless millions of people are willing to sacrifice something in its defense. Many leaders of organized labor in the United States have declared that organized labor is not going to make any of this sacrifice. According to a recent press dispatch the president of the C. I. O. advocated income tax exemption on incomes for married people up to $2,500 a year. That is, a C. I. O. member must not have to pay taxes, and can be depended upon to strike for higher wages, to be paid by somebody—just whom, is not quite clear.

Now, the railroad brotherhoods come along and admit that increased taxes are hitting their membership and that they mustn't have to pay taxes, and require a wage increase to cover these taxes.

Where is this sort of industrial policy leading us? If the working people of the United States refuse to be taxed—that is, demand increased wages for paying these taxes, which is the same thing—where is the country going to get the money to pay for the labor that is needed to carry on the work that has to be done? If the working man feels that the Government ought to pay his taxes for him, we would seem to have reached the ultimate limit of economic imbecility.

The production race in which we are entered can never be won until most of us are willing to put a lot into the effort to win it, instead of trying to get a lot out of this effort. It is going to be a question of giving a lot and getting precious little back except the security of our country.

The Federal Government has temporized with this situation about as long as it can, but the Federal Government is principally to blame for the situation. All of the policies of the past eight years have made such a situation inevitable. The Federal Government has been desperately striving for eight years to get an inflation going again. A Government which has spent so much time and money, and shaped its policies so carefully to produce a thing, is hardly fitted to stop it when it begins to get out of hand. Only public opinion moving swiftly to back up Government action can avert a catastrophe. A few more million working people openly refusing to do their bit for the country and demanding 20 or 30 per cent more wages will get this inflationary movement completely out of hand. We have pointed out from time to time that the national socialistic policies adopted during the past seven or eight years will lead straight to the Nazification of this country if these policies are allowed to reach their natural conclusion. We now seem to be hastening toward that conclusion.

The overwhelming majority of the American public is for national defense; this majority realizes in a hazy sort of way, yet still realizes, the peril that hangs over the United States. This majority realizes, even if indistinctly, that unless we get to work and produce rapidly the materials necessary to beat the Axis Powers, the United States is going to be obliged to assume indefinitely a military burden that will forever put an end to our pleasant and prosperous way of life. No nation can enjoy the comforts and blessings of life that we have been accustomed to if every man has to carry a soldier on his back. The will of the overwhelming majority of the people in this country is for going ahead with the necessary defense of the country by whatever means may be necessary. If the organized working people refuse to pay taxes and refuse to work at the defense of their country unless they are handsomely bribed to do so, then national bankruptcy is not around the corner, but is actually staring us in the face, and when inflation goes about so far, we cannot carry on by any orderly processes of democratic government and will be obliged to adopt some sort of Fascistic or Nazi dictatorship of our own

(*Continued on page* 94)

Textile Mill Conditions and Practices in Argentina

By George W. Murphy, Jr.,

Formerly of Buck Creek Cotton Mills, Siluria, Ala.; now with S. A. Fabrica Argentina de Alpargatas, Buenos Aires, Argentina.

THIS ARTICLE gives first-hand information on textile manufacturing in Argentina by a competent operating executive from the United States. Mr. Murphy went to Buenos Aires in April 1939 to accept a position in the spinning mill of S. A. Fabrica Argentina de Alpargatas, whose Buenos Aires plants, equipment and practices he fully and interestingly describes. The company operates mills also in Uruguay and Brazil.

Mr. Murphy's description of Argentine methods is particularly interesting as the observations of a mill man trained in the United States who has been in Buenos Aires long enough to observe and evaluate practices there. Without making comparisons, he especially comments on the practices down there which differ from methods for similar purposes in his native country. He has prepared his comments in the interesting, informal letter to the Editor below.

The accompanying illustrations were brought to "Cotton" by R. M. Fraser, associate manager of the Alpargatas company, on his visit to the United States last April . .

AS TWO YEARS have passed since we left Siluria, Ala., to come to Argentina, perhaps you might be interested to learn what has happened to the Murphys in the meanwhile. You might also be interested in how Argentine textile manufacturing, as I have seen it, stacks up with that back home. Having seen only a few mills my ideas might be a bit one-sided but, at least, they will be in the main from the biggest textile outfit in the country and from a mill that we think is as good as they come in any part of the world.

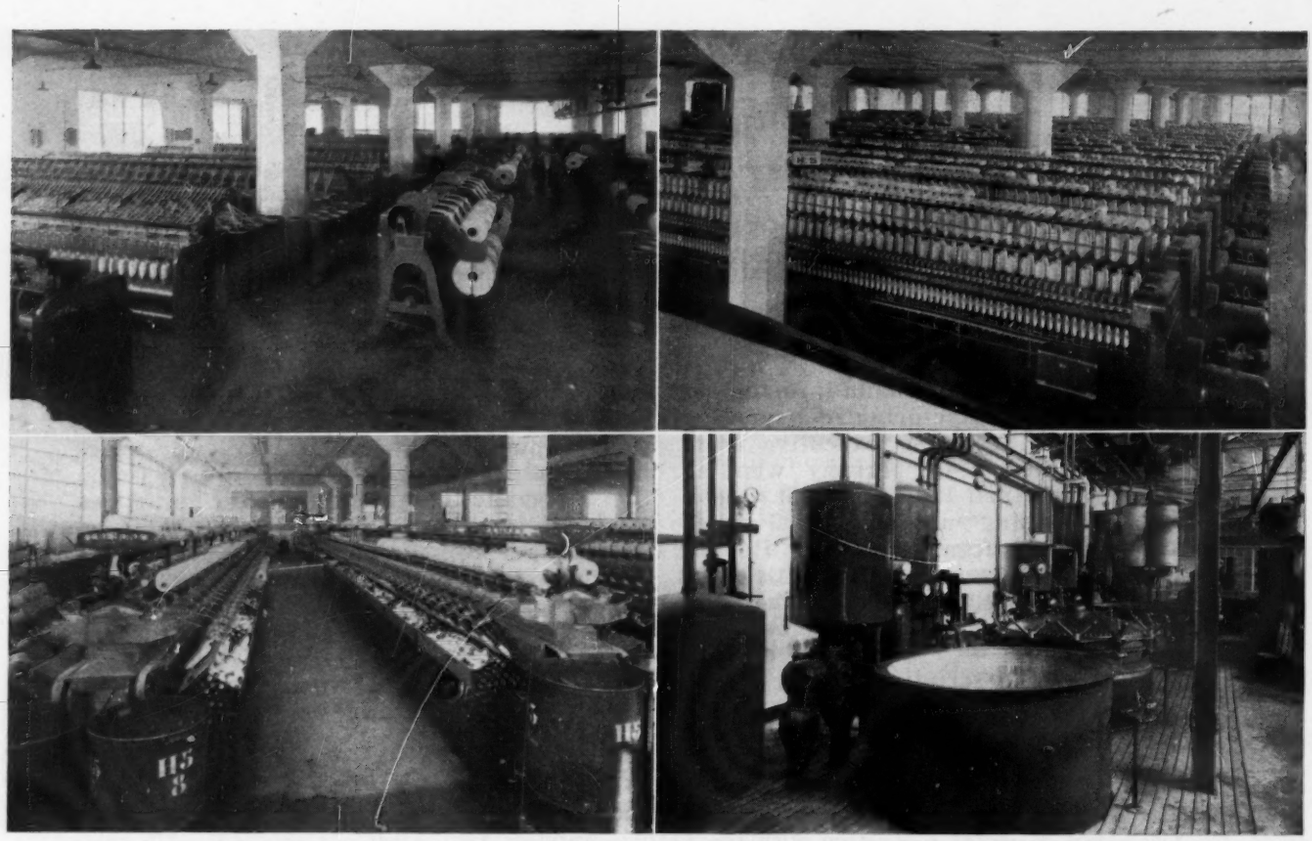
While Dot and I had previously been prepared by my week's stay in Buenos Aires early in 1939 and by all the reading matter that we could find on Argentina, still we didn't expect to find the pleasant and enjoyable life that we have found. People simply have to live some time here before they realize that life here is, or can be, much like living in any other big city, even a U. S. one. Due to the movies, the radio and the rapid transportation to and from every part of the world, Buenos Aires has all the comforts (and many of the discomforts) of anywhere else. In Argentina, too, we have "swing fans", "double-features", traffic jams and short dresses. One soon becomes settled and "criollo" as native things are called. One thing I have yet to see, however, is the much talked of easy life and listless outlook one hears in connection with the Latin countries. Argentina is very definitely not a "manana" country and one finds the same ambition and desire to get ahead as elsewhere.

This country is mainly agricultural although industry is daily playing an increasingly important role. During the last ten years local industry has grown by leaps and bounds and rare is the article which may not be found "Industria Argentina".

In general, the factories are small but there are a few scattered about employing from 2,000 to 5,000 workers, if not more. In recent years quite a number of well known foreign manufacturers have put up their own plants to manufacture exclusively for Argentina. The war has made things a bit easier for local industry although British industry has delivered exceedingly well. German and Italian goods are, of course, coming only from pre-war stores. We hear of bits coming through Japan but we mark it down as propaganda as we never see any results.

While Argentine cotton has failed the hopes and expectations of many, production is climbing steadily and quality grows better slowly. In the better sections 2,000 pounds of lint have been made to the acre but an average for the country would be between 300 and 600 pounds. Although there are some parasites that do harm, there is no boll-weevil here. Argentina

Airplane view of Alpargatas plants in Buenos Aires. The spinning, weaving and finishing departments are in the taller buildings at the left. The company also operates textile plants in Uruguay and Brazil . . .

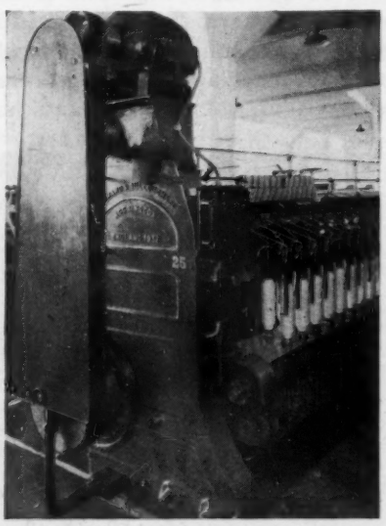


Some views in the Alpargatas mill. Upper right, controlled draft drawing and long draft roving. Upper right, long draft, individual-drive spinning frames. Lower left, No. 44 cone winders. Lower right, some of the dyeing equipment, including facilities for package, beam, and roving dyeing. . . . . . .

has never been a real competitor with the U. S. in raw cotton, say on the scale of Brazil, but we must remember that there yet remain thousands and thousands of acres of the richest of soils to be cultivated. Serious attempts are now being made to grow quality and "staple" cotton as local mills are showing their first willingness to pay premium prices for "top-notch" cotton.

As import duties force the use of local cotton, bad seasons work an unfair hardship on the mills. Unlike the U. S., planting is done in a restricted area so that when one part is bad, all is bad. As a whole, however, the cotton compares very favorably with American. It is a bit worse in all respects and mixed staple is a constant defect. This is probably the reason that fine numbers are nct spun here although up to 60s have, at times, been offered as sale yarns. The cotton must not be so bad if tire cord and fabric are made to meet U. S. specifications. There are U. S. mills today that use worse cotton than the average here.

Of the 29,000 textile workers in Argentina, 40 per cent are of foreign nationality. Italians and Spaniards predominate although there are large numbers of Lithuanians, Germans, Portuguese and Poles. There are only 29 North Americans (as the Argentine calls us). While our plant is not organized, unions are a growing factor and one to be remembered. The outlook on unions is very similar to that in the U. S., both from the management's and the laborer's point of view.



A long draft roving frame in the Alpargatas mill. Note the headstock drive, reasons for which are described in the article. . . .

Strong Labor Laws

While labor loads are much lower here than in some countries, it is probably due to the youth of the industry and the lack of a textile "class" of people. Women are used here far more than elsewhere. In the cotton industry, 86 per cent of the workers are girls, although no night work may be done by a woman. They must not begin before 6:00 A.M. (7:00 A.M., during the three winter months) and may not work after 8:00 P.M. By law no women or minors may work on pickers or cards. Minors between 14 and 18 comprise 14 per cent of the workers but have special laws covering them.

It might be of interest to review briefly the labor laws, which, by the way, are older and more stringent than those at home. One hears no complaining against them and, as a rule, they are complied with. The maximum work week is 48 hours for everyone. No work may be done on Saturday afternoon, Sunday nor the five official

holidays. The maximum day is eight hours but for minors it is six. No woman may work past 1:00 P.M. without a two-hour rest period ("siesta"). Each woman pays a small tax (her employer pays double this) to defray expenses of the "Maternity Law". On the birth of her child she receives 300 pesos (75 U. S. dollars). The law allows her four months to return to her job.

Some Wage Rates

Rates are much lower than U. S. rates but they are high for South America. The Government recently published the following as being accurate averages:

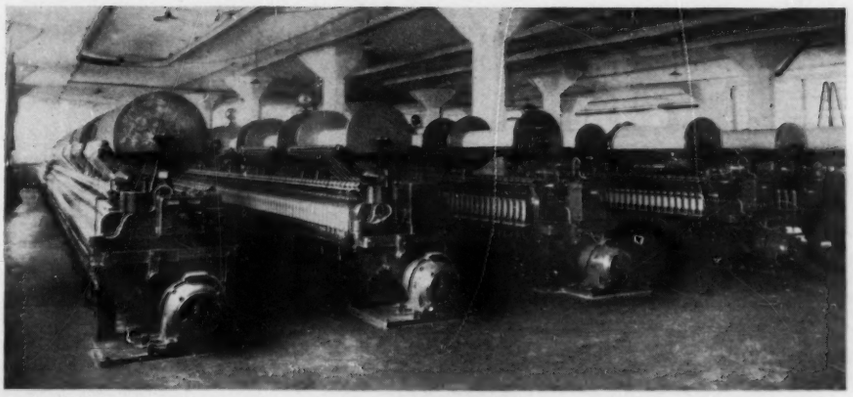
Tender of pickers	14	cents per hour (U. S. Cy.)
cards	15	cents per hour (U. S. Cy.)
drawing	10	cents per hour (U. S. Cy.)
roving	10	cents per hour (U. S. Cy.)
spinning	10	cents per hour (U. S. Cy.)
looms	12½	cents per hour (U. S. Cy.)
Loom fixers	21	cents per hour (U. S. Cy.)
Foremen	$50	per month

Women are preferred as workers, partly due to the lower prevailing female wage rates and partly because they make more dependable workers. Strange indeed it is to see women operating slashers, slubbers, intermediates, doffing spinning and acting as "forewomen". These women "forewomen" ("Capatazas", they are called) are amazingly capable both in handling the help and in technical knowledge.

We have no negroes here. Workers are neater and better dressed than those in the U. S. and the women are particularly neat. One is rarely seen, in or out of the factory, without a liberal supply of powder and rouge.

Living conditions for the workmen here, while not so good as those in the U. S., are good. The wage rates given do not show a fair comparison as the basic commodities of life are cheaper here. Workers also get more hours here over a period of several years as short time is less than in the U. S.

Argentine labor loads may not be compared directly with those of a country with a settled textile industry. No "cotton mill" group of people has been formed and experienced help is impossible to find. All workers, therefore, must be taught from the beginning. Too, where women are used more than men, labor loads fall. Cotton is a bit worse than U. S. and runs a bit worse. The following labor loads which are taken from our mill may not show average conditions, but they will give some idea of what is being done:



Some of the beam twisters for tire cord in the Alpargatas mill. . . .

Typical Work Assignments

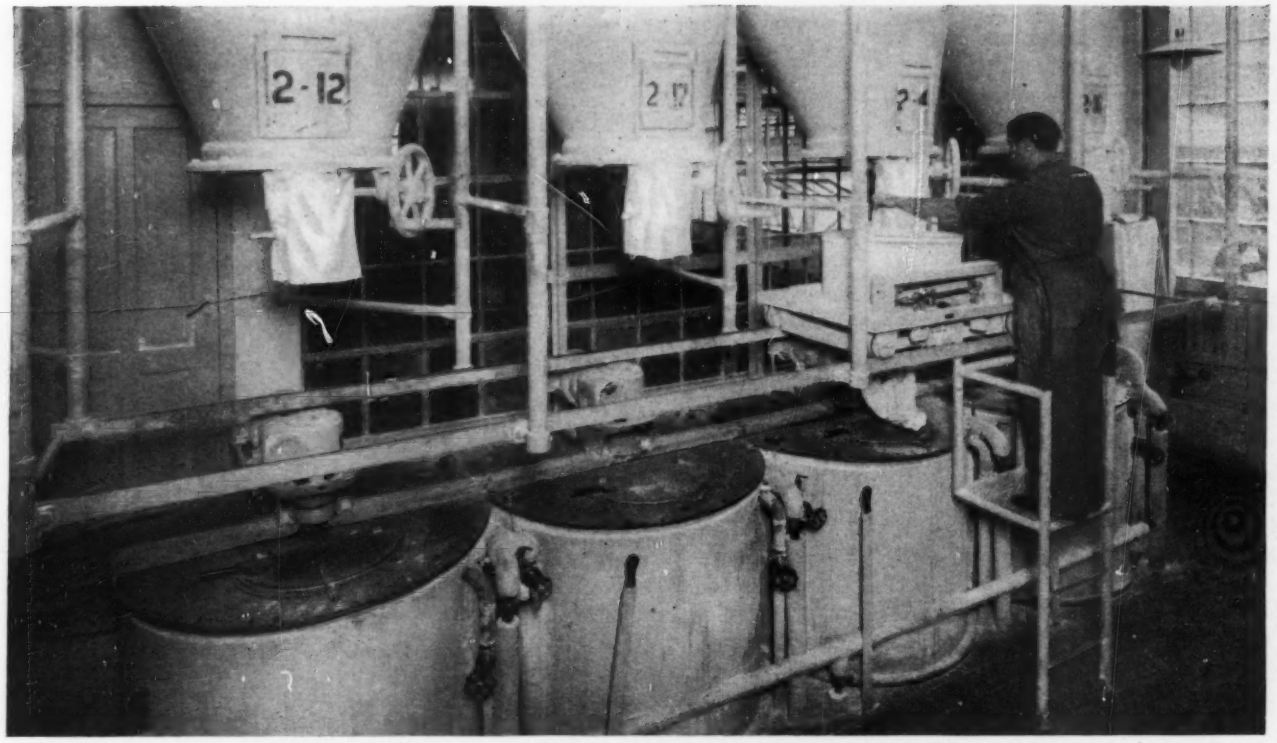
Tenders of pickers (lap runs 5 min.), 6 fronts
Tenders of cards (14 lbs./hour), 18 to 24
Tenders of drawing (S.L. controlled draft), 48 del.
Tenders of slubbers (.50-hank 11 x 6), 96 spindles
Tenders of intermediates (1.00-hank 11 x 5), 120 spindles
Tenders of speeders (2.00- and 3.00-hank 8 x 4), 320 spindles
Tenders of spinning 12s yarn, 800 spindles
Tenders of 36-inch denim looms, automatic, 20 looms

Argentine building construction is ideal for cotton mills. Practically all buildings are of reinforced concrete construction and most factory buildings are new. Thus, there is little "building sway", and no "settling" of machinery once it is put down. Buenos Aires, home of Argentina's textile industry, has a terrific climate for cotton, however. Humidity content often varies from 30 to 100 per cent in one day. Artificial humidification has come in rather slowly, although one mill is installing an "Air-Changer."

While textile machinery here is mostly English, there is some of practically all makes in the world. There are mills with North American, Swiss (which is very good), German, Czechoslovakian and even one with Japanese. Various European nations (before the War) have had periodic expositions of their products and textile machinery is always part of the display. Magazines and books of a technical nature in all languages are read. Thus the industry has the opportunity of choosing the best ideas from all the world. Of course, deliveries of any nature from the "Axis" countries are stopped and from other countries things move slowly.

In 1938 there were 343,000 cotton spindles in this country, practically all of them on very coarse counts. The average number for our company would be near 10s. About 50 per cent of this spinning is long draft, although little long draft roving has come in. There is little visiting from one factory to another. It often takes even salesmen who are good friends of a manager years to get from the office into the mill. There are no technical associations for problem discussion.

Our factory, which is primarily a shoe factory specializing in "alpargatas"—a rope-soled canvas shoe which is worn in enormous quantities in this country—is located a seven-minute auto ride from the center of the city. The factory is comprised of three buildings, all located together, one small building about 10 miles out of town, and three warehouses a few blocks from the main factory. In the original or oldest building are made the alpargatas (110,000 pairs per day), the rubber shoes (12,500 pairs per day), the leather shoes and boots, and the jute and sisal cords and rope. The main offices of the company are located on the top floor



THIS photograph illustrates an unusual and interesting procedure for mixing the starches and other ingredients in the size mixture for slashers in the Alpargatas plant. The system is used also for making up the starches for finishing processes.

Each type of starch used is stored in the large silos or tanks, the lower ends of which are shown at the top of the picture. Each of these four silos is approximately 45 feet high, and 36 inches in diameter. The supply of starch is put into them through "man-hole" covers at the top.

On the floor underneath each silo is seen a size mixing kettle. A movable balance contains a container that holds approximately the amount of starch desired for a mix. The track is located underneath the delivery chutes of the starch silos. The operative is seen taking starch from the third silo. A unique valve arrangement was devised, which is used to feed the starch into the balance container. When the proper weight of starch has been put into the container, it is then released, from the container, into the proper mixing kettle below.

All softeners, penetrating agents, etc., for the mix are premixed into a standard solution on the floor below, and pumped, by measure, into the mixing kettle through a hose from a measuring vessel similar to the gasoline pumps used in filling stations. Paraffin, animal lards and similar ingredients are kept in liquid form and added separately.

The size kettles are equipped with electric paddles and size gear pumps for agitating the mixture and circulating it to the slashers, where there are storage tanks of a similar size. As yet, there is no size re-circulating arrangement, but the slashers are equipped with automatic size level controls. It is planned later to add automatic instrumentation to the size cooking equipment.

The company has found a distinct saving in the amount of starch consumed, greater uniformity and accuracy of size mix and a definite saving in labor, since beginning the use of this system several months ago.

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of this building. This office is somewhat unique in that only the top three executives have partitioned offices, the others being located in one large room which extends the entire length of the building. All sales, factory calculations, engineering, bookkeeping and accounting is done here.

This office is the pride of the management, as out of 150 girls employed here, 125 have worked their way up from the factory itself, by studying in the factory school and by self-application. I can assure you that one would never take these girls for factory girls who have worked machinery in the plant.

In the second building are located the spinning, weaving, dyeing and finishing. Here is done the Sanforizing for which we have exclusive Argentine rights. Sanforized denims is one of our biggest businesses. Our sanforizing machine, made by the Textile Finishing Machinery Company, is one of the widest ever built.

The third building is devoted principally to the waste mill which works up all of our waste plus a considerable amount purchased outside. Here also we make, from this waste, blankets, floor cloths, dish cloths, towels and polishing cloths. Here, too, we have our tape weaving, which covers a great variety of narrow fabrics including elastic and military webbing.

In the same building is located the braiding department, where on Wardwell braiders we make corset laces, shoe laces, etc. Cotton sewing thread is polished and wound here and bias tape finished for sale. The top floor of this building is specially designed with a minimum of columns and is devoted to the manufacture of tarpaulins, tents and wagon covers for which is utilized a waterproof canvas made in our textile mill. Occasionally this department receives orders for circus tents, the largest of which so far was made to accommodate 3,000 people.

All help for the whole factory is hired and controlled through a central personnel office, where there are kept extremely accurate records on each of the 7,500 workers. All workers are required to wear uniforms, from the lowest worker to the superintendents, color denoting rank and building in which a per-

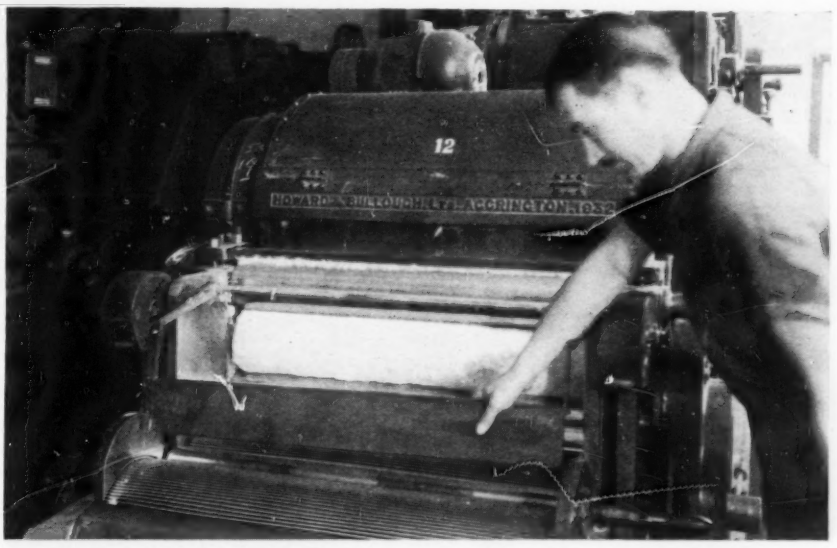
son works. A staff of doctors, dentists and nurses in modern, superbly- equipped offices are furnished free of charge. A non-profit store is operated and hot and cold showers are continually open to all. To an American textile man, one of the outstanding features of the factory is the cleanliness and the modernness of the dressing rooms and lavatories. Each worker has his or her own locker. Cleanliness in the lavatories is not just a request but an order. (No spitting on the floor is allowed anywhere in the mill). The help here is the neatest and cleanest that the writer has ever seen.

Description of Mill Equipment

Our cotton mill started with weaving many years ago. In 1923 the first spinning was put in (6,000 spindles). Since then it has grown to 53,000 spindles and 1,000 looms. Daily (14 hours) production is now over 66,000 pounds with 10s the average count. A growth over a period of years has not allowed "Alpargatas" the most orderly of layouts but it has allowed the most modern improvements when they came out. Most of the spinning machinery is Howard & Bullough, England, and most of the weaving is British Northrop. We do have, however, some Saco-Lowell, Rieter (Swiss), Tatham (English), Platt's (English) spinning equipment, Draper X and quite a few types of English looms. The factory is run along English lines in that weaving and spinning are operated as separate mills and under separate superintendents.

I might mention that the factory is always on the lookout for new improvements and is not behind the times as a South American mill might be expected to be. Our jute mill is perhaps the only conveyorized jute mill in the world. (Everyone in Europe and America told us that it would be impossible to conveyorize this factory but today it is the most perfectly coordinated conveyor unit in the plant). Our rubber factory has the most up-to-date machinery and produces rubber "sneakers" with as little labor per shoe as any factory. Expansion has been the watchword for years and in the writer's two years here we have purchased 45 cotton cards, two waste cards, four lap winders, 11 drawing frames, 11 fly frames, 3,000 spindles of spinning, one comber, 50 Draper X looms, 25 British Northrop looms, one Platt's webbing loom, one automatic pirn winder, four cone winders, one Proctor & Schwartz cheese dryer and two tire twisters.

In the mill there are many things of interest, many of them in use in the U. S. and many of them not in use. Beginning at the opening, I will try to go through the mill describing the things which have interested me most. Understand that I do not hold them up as better than U. S. practice, but as being of interest and as working well here.



Illustrating the safety device on pickers described in the accompanying article.

English opening and picking differs from U. S. practice in that less blade beating is done. Kirschners are not used and more hopper feeders are used in the line itself (not for blending). The Shirley Cage, which may be applied either in the opener or picking section, is a fast revolving screen which reduces dust greatly. Even with the dustier Argentine cotton our opening and picking is freer of dust and fine fly than any similar room I ever saw. (We have no partition between the opening and the picking.) Our management is partial to dust trunks. We have quite a few and have no trouble from them. Needless to say, they give us extensive cleaning. One opener section supplies one breaker picker section which in turn supplies two finisher sections, where 14-ounce laps are produced. All picker fronts have safety devices (see photo). The pickers are connected by piping to result in single process.

The cards are 37-inch width, but otherwise similar to H. & B. American. We do have a few Platt Bros. cards which are similar to Whitin cards. One strange factor on these cards is that the flats are driven from the second flat stand from the front. This allows freedom from the customary crowding at the front of the cards. All are individually-driven (1½ h.p. motors) with a safety stop which doesn't allow the stripping door to be opened while the cylinder is in motion (except with a wrench). All cards are vacuum stripped. Strips fall onto the bonnet as Thomson rolls are not used.

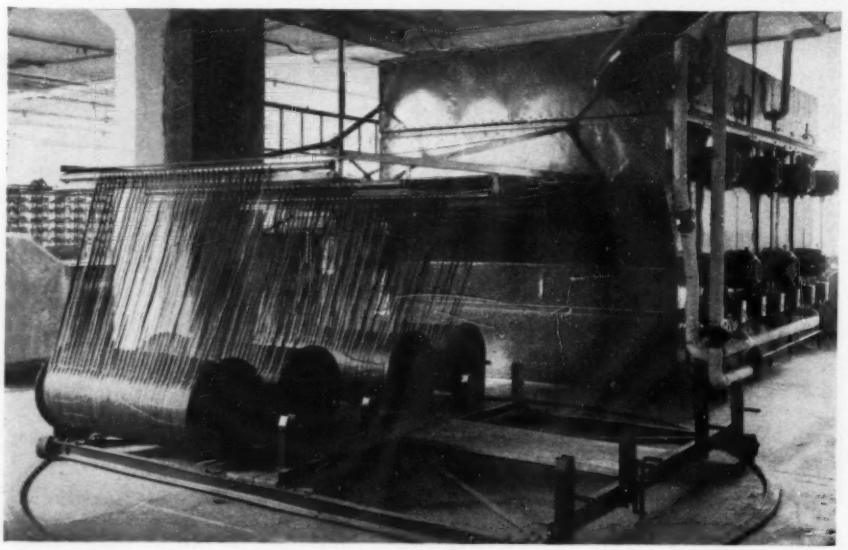
We never grease the cylinder bearings. In each is placed a small square of woolen flannel which holds the oil and applies it. The writer has never seen a hot cylinder bearing. Lickers-in are ball-bearing equipped. On the top of the cards is placed a holder which allows a 1-inch square graphite stick to pass over the flat ends as the flats pass. Cool flat worms are the result.

Needle-point grinding has been adopted as standard and regular grinding is light but often. Redrawing card clothing is "taboo" and flat chain links are never removed. It is my opinion that the cards are in the finest shape of any of our equipment and, for that mat-

ter, of any cards I have ever seen.

Drawing is partly "'controlled-draft" and partly regular three-roll. The management favors the regular two-process.

Roving frames are part Howard & Bullough, Accrington, and part Saco-Lowell controlled draft. They are all individual drive, the English frame having the motor located on the head-stock. This location allows more floor space, freedom of blows of boxes, trucks, etc., and raises the motor above the majority of flying dirt and dust. The English frames are also equipped with separating plates between each end and are longer than the American, being 96-spindle slubbers and 120-spindle intermediates.



Dyeing card sliver in the Alpargatas plant. A warp of card sliver is made, the sliver dyed, and dried as shown with no tension.

We are trying one of Howard & Bullough's latest long draft intermediates, which have several unique features. The system is four-roll with funnel-shaped Bakelite scroll which inserts no false twist. The roll stands are similar to those on a spinning frame in that the rolls are set on an angle, although less. This allows easier cleaning and putting up ends, in addition to the advantage of giving added twist continuity. Weighting on the two back lines is done through a lever system under the roller beam allowing a light weight to give the needed heavy pressure for the initial draft. Weighting on both pairs of top roll saddles is released by means of a "quick-release" lever which is changed with the flick of a finger. The revolving front bottom clearer and the stationary back bottom clearers are held in place by spring pressure.

In spinning we have several different types and three different makes. There is the Howard & Bullough three-roll, four-roll, Toenniessen and Casa-Blanca long-draft, Saco-Lowell regular three-roll and Roth long-draft and one frame of Rieter (a Swiss make) Roth-type long-draft. Most of the English frames are 8-inch traverse, 2¼-inch ring and 3½-gauge. The newer frames are equipped with separators, traversing thread boards, Casablancas spring top roll weighting with quick release levers and all the English frames are equipped with the 1½-inch self-weighted, uncovered back top roll. Thus the roller beams are free of stirrup-holes and easy to clean.

The English builder is different from the U. S. in that the ring rail lowers as the builder motion raises. Ratchet gears are much coarser pitch to allow ease of setting. As all of our yarn is re-wound, all frames are warp type but with "filling" build. All spinning bobbins are of the type which fits tight on the spindle barrel rather than at bobbin base. All frames are individual drive, which is placed at head end. (Our latest frames are off-end driven.).

The Swiss frame, which we recently put in as a trial, has several noticeable departures from the customary. It is beautifully finished and appears to be more accurately machined than any cotton machinery I have ever seen. The bobbin (combination build) is built in an unusual way in that the ring rail rises and falls, always in the same traverse. The bobbin rail falls gradually to build the bobbin. Tight-fitting fiber bobbins of the large diameter type are used. Drafting is similar to that in the Saco-Lowell Roth.

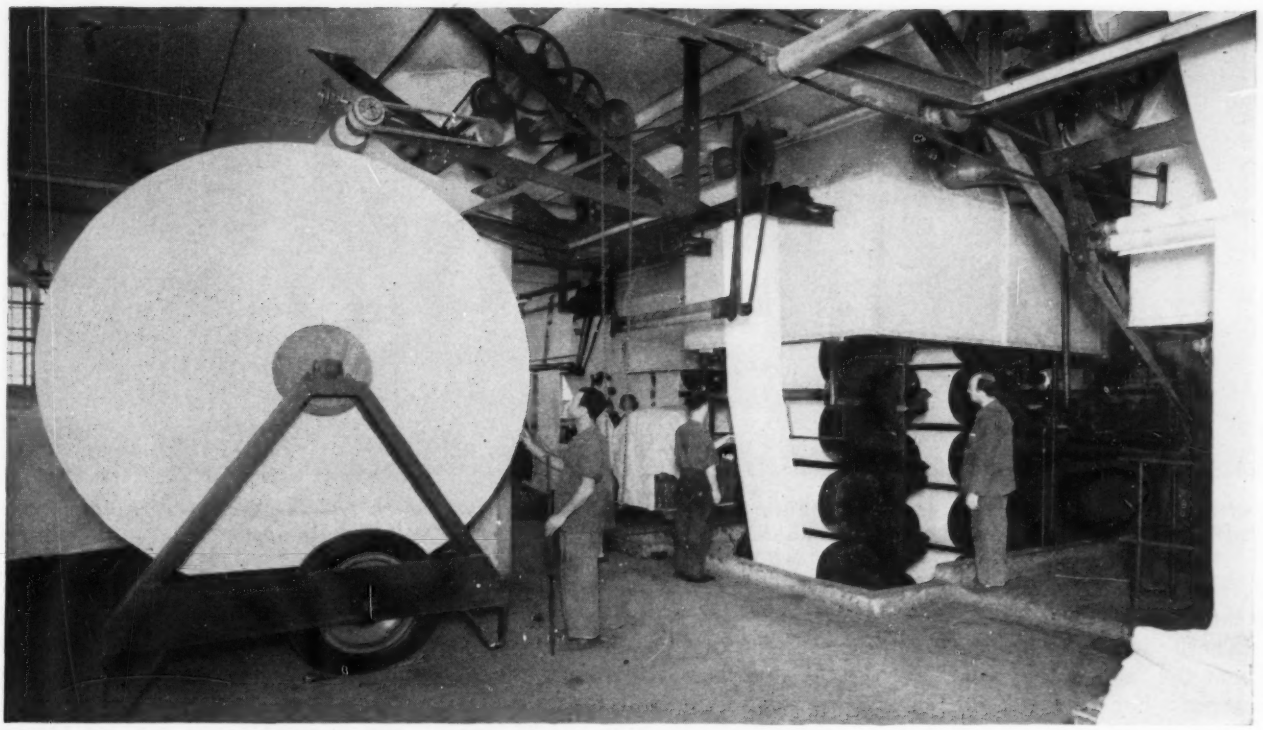
A system which has been interesting to the writer is a Swiss system for the spinning of flannel yarns. It is composed of two machines, a condenser card and a ring frame with a draft of 2. Card laps of 100 per cent strips are used. Surprisingly smooth yarn is produced, although the low break due to unparallel fibers is a drawback.

Filling is Re-Wound

With the exception of two machines, all our coning is done on Universal Leesona 60 G.F., 160, 16, 40 and 44. We have a new Holt which is a Foster type English winder and which produces a 10-pound cone. Filling is wound on Universal No. 90s and Schweiter automatics, which Whitin is now making. This winder, which is 100 per cent mechanical, works well. The operative has only to fill the magazine and take away the full bobbins. No filling is placed in crates but it is set in a "rayon-type" vertical tray.

As there has been weaving at the factory for many more years than spinning, we have some looms much older than any other machinery. We also have many makes of looms which are not manufactured now. Our wide variety of goods which includes denims, tire fabric, belting duck, awning, tent and wagon duck, suitings, tape, webbing, toweling, wiping rags and floor cloths (for the marble floors of all the houses here) naturally calls for many types of looms. Most of the older looms have the "over-pick" or "bat-wing" picking motion. This system gives a very smooth pick which rarely breaks any parts but has the disadvantage of not being possible on an automatic loom.

Like most English machinery, the English loom is very solidly built, and contains much more metal than the American. Most of our harness are steel heddles. Weaving speeds are somewhat lower than those used



Large Rolls in Finishing Plant

THE ROLLS of cloth in these illustrations contain approximately 16,000 yards each, approximately 2½ tons of cloth, and show the application of modern handling methods in the finishing plant of the Alpargatas company in Buenos Aires. In this plant, the shearing machines are located on an upper floor, and the cloth delivered by them goes by outside chute to a big roll wind-up in the finishing room, where it is rolled up into these huge rolls for delivery to the finishing ranges. The picture at the left shows one of the rolls, on the special carrier designed for the purpose, as the cloth is being delivered by the finishing range of a mangle, tenter and dry cans. The simple rolling-up device, which works on a hinge, may be seen at the top of the roll. The use of these large rolls gives a continuous run of 8½ hours on the finishing range; and 14 hours at the Sanforizing operation. In addition, there are distinct savings in transporting goods, and in floor space, as well as in protection to the goods, since only the outside layer of the 16,000-yard roll is exposed to damage, and there is no creasing of the fabric as in plaiting down into skids or trucks. As indicated, the cloth in process, after the last operation in the upstairs cloth room, following inspection, brushing and shearing, is rolled up into one of these huge rolls from which it is fed continuously to the finishing range, which puts it into a similar roll for delivery to the Sanforizers. Thus all previous trucking, plaiting down, handling and movement of the goods at these three points has been eliminated, and the longer runs on the finishing range and Sanforizer, as well as definite savings in labor and quality of goods are obtained.

(Editor's Note: The "unround" appearance of the roll in the photograph is due to photographic distortion, as actually the rolls are perfectly formed.)

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at home, but we do have 50 Draper X models doing 192 p.p.m., and a Swiss (Ruti) loom doing 220 p.p.m. The management seems very pleased with the X models, which are the first American looms that we have had. On our last order of British Northrop looms we had special large 36-inch diameter beams put on. Practically all the automatic looms, which comprise 50 per cent of our total, are equipped with feeler motion. On the English loom the crank shaft goes in the opposite direction to the American.

The Swiss looms that we have are, like the spinning, beautiful pieces of machinery. They bring to mind the engineering and finish of an automobile rather than a cotton mill. One of the newest of these looms has no arch and the harness are operated and supported from below.

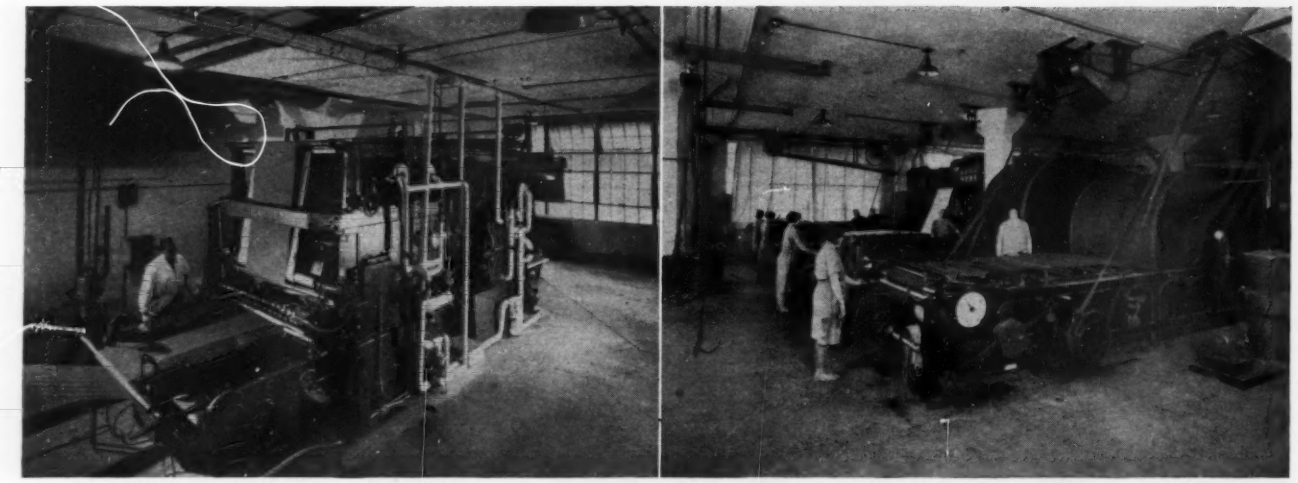
We also have three of the latest Terrell quill strippers with hoist.

All warping is Saco-Lowell high speed; Boyce knotters have proven far superior to the English and French which we have tried. We now use them exclusively although their initial cost is much higher and it is often difficult to obtain exchange permits to bring them in.

We have both hot air and cylinder slashers, all made by Howard & Bullough. Before the outbreak of the war we were using a Dutch starch in making up our starch, but we now use a corn starch which is made here in the country.

As quite a large percentage of our goods are dyed, we have a large dyehouse, with complete systems to do dyeing on beams, Franklin cheeses and finished goods. There is, however, no raw stock dyeing. We also have a Czechoslovakian sliver dyeing system, in which sliver beams are dyed and then run through a dryer onto centers for the Saco-Lowell drawing frames.

In the tire cord division, tire cord and fabric are made for the Firestone and Goodyear plants here. We have recently installed machinery for manufacturing low stretch cord, and are getting very satisfactory results. It is interesting to note that we manufacture cord and fabric to meet the same specifications as are made by the tire mills in the States, although the "run of the mill" cotton in Argentina is not as good as that in the States. In order to meet these specifications we often find it necessary to buy the best bales of the entire Argentine crop. From these we obtain



Left, one of the Sanforizers in the finishing department of Alpargatas, which has the exclusive rights to the Sanforizing process in the Argentine republic. Right, the slasher room; note female operators. . . .

enough bales to meet our requirements.

There are several small items about the factory that might be of interest: For example, the metric system is universally used in this country, and for this reason we have devised a yarn numbering system which is very sensible and easily understood by people who deal in this system. The number of our yarn is calculated as follows: The weight of 100 meters in grammes is the number of the yarn. Thus a yarn of which 100 meters weigh 59 grammes, is 59s yarn. We find that the girls who weigh make far less errors with this system than with the old, as they have to use no tables.

We also use the 24-hour clock, and thus for example, 5 P.M. becomes 17 o'clock.

All trucks are equipped with rubber-tired wheels. This rubber is put on in our rubber mill.

Circulating through the factory is practically every technical magazine of good repute written in English. There are of course many which are also written in Spanish. These magazines are passed around the staff of engineers, to be read or studied as they wish. A very extensive technical library is also at the disposal of the staff at any time.

A completely equipped chemical and analytical laboratory is maintained, and incidentally it is proving an extraordinarily good investment.

We find that there are many articles which we can manufacture ourselves much cheaper and often better than if we bought these outside.

In the cotton mill practically all the stock is moved from one process to another in fiber cans which are about 30 inches high and 26 inches in diameter. These cans are moved by means of a truck or a portable angle iron placed on wheels.

Floors are all of a special combination which does not crack as readily as ordinary cement. This combination has the added advantage of insulating heat and cold. In order to preserve this flooring we insist that the card cans are carried rather than dragged as is customary.

Doffing time on the cards, by the way, is announced by the ringing of an automatic bell.

Our spinners come from the doffer "groups" who work from 12 to 16 together. At first glance this seems an expensive manner of training spinners, but one has to remember that in this manner we avoid apprentice spinners and men doffers, in addition to a very high spinning efficiency. These girls work two to a doff box which is placed on a rod the length of a frame in such a manner as to slide down the rod and to be easily removed if desired. At the head of each doffer group is an experienced girl who starts the frame and sees that it is doffed properly.

I hope in the foregoing that I have shown that the Argentine and our company are not so backward as many Americans might think.

The writer still is American first, last and always, but likes the Argentine very much and feels that his change to this country was his best move. The best and probably the only way for a person to understand a feeling of this sort, is to come down and pay us a visit. I can guarantee you can see things you did not expect to see, and that you won't regret it.

STA Meets in Raleigh

The Eastern Carolina division of the Southern Textile Association held its regular spring meeting Saturday morning, April 26, at the textile school of N. C. State College, Raleigh, N. C. W. H. Miley, Jr., superintendent of Erwin Cotton Mills Company, Erwin, N. C., and divisional chairman of the STA was in charge of the meeting, with George Gilliam leading the discussion.

Topics for discussion were the uses of devices to compress the card sliver at the cards, and a review of what was seen at the Southern Textile Exposition held in Greenville, S. C., the first week in April. Concensus of opinion on the compression devices for putting more stock in card cans was that from 15 to 25 per cent more stock could be put into the cans without any damage to the stock.

David Clark of Charlotte made a brief address explaining the new research project that is to be conducted by The Textile Foundation and the Southern Textile Association among southern mills. A resolution endorsing this work was adopted by the division.

Officers elected for the ensuing year are George Gilliam, Sterling Cotton Mills, Inc., Franklinton, N. C., chairman; D. E. Long, Oxford (N.C.) Cotton Mills, vice-chairman; V. E. McDowell, Rosemary Manufacturing Company, Roanoke Rapids, N. C., secretary. J. E. Shaw of Roanoke Rapids was elected as a member of the executive committee.

A Report of the Hearings in Washington on

Wage-Deductions by Textile Mills

By Robert W. Philip

LAST MONTH we attended in Washington, with a group of textile men headed by Claudius Murchison, president of The Cotton-Textile Institute, the public hearings called by General Philip D. Fleming, administrator of the Wage and Hour Act, on the recommendation of Industry Committee No. 25 that the minimum wage for the textile industry be increased from the present 32½-cent level to 37½ cents per hour.

The provisions of the Fair Labor Standards Act of 1938, under which the administrator functions, require that after a committee's recommendation, a public hearing be held, after which the administrator takes the recommendation under advisement, along with testimony submitted in the public hearing, and later accepts or rejects the committee's recommendation. If accepted, the recommendation when put into effect by the administrator, has the power of law.

The committee's report related entirely to a recommendation to increase the minimum wage to 37½ cents; there was presented before it no testimony relating to, and no recommendation was made by it to the administrator, on any other point.

In announcing, on about May 1, that the required public hearing on the recommended minimum wage would be held on May 15, the administrator's notice stated that the matter of "wage deductions" was to be included within the scope of the hearing. He announced that evidence would be taken, not only on whether the recommended minimum wage would be approved or disapproved, but also:

"In the event an order is issued approving the recommendations, what, if any, provision is necessary to be made in such order regulating, prohibiting, or restricting deductions from wages for facilities furnished by employers to employees in the textile industry, to carry out the purposes of such order, to prevent the circumvention or evasion thereof, and to safeguard to minimum wage rates established therein."

The inclusion of this subject matter in the hearing came as a distinct surprise to the entire industry, and officials of the wage-and-hour division steadfastly refused requests to consider the two questions separately or to postpone consideration of the wage deductions matter. In testimony before Industry Committee No. 25, the industry, through Dr. Murchison and others, had taken the stand that while temporary, transient improvement in business warranted some increase in wages, that unjustified wage increases at this time could but tend to add impetus to an inflation spiral which would throw the national economy out of gear, and asked that the minimum not be raised above 35 cents at this time. Subsequent to the unanimous vote of the committee for 37½ cents, however, the industry, without waiving its position as to the soundness of a lower figure, tacitly accepted the recommended level unanimously recommended by the committee.

The summary notice of decision to explore the matter of wage deductions, however, with its implication of intent to "regulate, prohibit or restrict" this accepted, universal practice throughout the industry, indicated intention to extend regulation of industry far beyond the obvious intent of the law, and even exceeding the already impractical interpretations of the legal staff of the wage-hour division in the application of the Fair Labor Standards Act. So a group of interested representatives of the mills attended the hearings, to hear testimony in support of the provision on wage deductions, and to offer factual evidence to prove its complete impracticability, and to demonstrate that any regulation interfering with the operation of this mutually satisfactory and wholly voluntary practice in the textile industry could but result in hardship upon the employees, the very group which the Act was designed to aid and protect.

The hearing was called for Thursday, May 15, and it seemed at first that it would be concluded that day. The industry was prepared to offer no further objection than had been expressed before the Industry Committee, to the approval of the recommended 37½-cent minimum. After the preliminary opening of the hearing on Thursday morning, however, by Thomas Holland, of the division's department of research and statistics, a government witness, Harry M. Doughty, also of that department, was called upon to present a statistical analysis studying the probable effects of the recommended minimum, and he consumed the morning in doing this. After lunch, there were brief statements on the recommended minimum by Dr. Murchison, and representatives of labor organizations, no one interposing objection to it.

Then, about 2:30 P. M., the examiner, Mr. Holland, announced that the hearing would consider testimony on

Evidently **Harry Weiss**, shown at right while reading his 94-page brief, had more time than the mills received in preparing for the hearing; as well as ample assistants. The three men shown nearest him are three of his assistants in the wage-hour division, and were constantly at his side during his testimony, assisting in substantiation of material and references. Right to left, their names are **Lynd, Weiseger,** and **Arnow.** The man at the extreme left is a member of the information department of the division . . . . . .

the matter of wage deductions, and the government attorney presented as his first witness Harry Weiss, of the division's department of research and statistics, who announced it would require about three hours, "with no interruptions", for him to present a 94-page brief he had prepared on the subject.

Mr. Weiss' testimony occupied the remainder of the day, and the entire session on Friday morning. It was obviously a most irrelevant, unconvincing, prejudicial and completely immaterial treatise — reviewing literature and legislation on wage deductions, mainly in industries other than textiles, going back as far as 1879—and earlier—not alone in this country but in foreign lands as well. He reviewed reports of malpractices and abuses in mining, railroading and other industries, but rarely discussed the subject in the light of present-day conditions in the textile industry. He gave a thorough digest of all state legislation, past and present, on the matter of wage deductions; and devoted another section to foreign legislation on the subject.

Not once in his prepared brief, or in response to direct questions on cross-examination, did Mr. Weiss submit a single suggestion as to what method or procedure might be used to replace existing practice if it were prohibited or so restricted as to make it impossible.

Mr. Weiss concluded in time for luncheon on Friday, and the mill representatives were given Friday afternoon in which to discuss the subject. The first mill witness was Dr. Murchison, who presented a strong, factual analysis, not only of the impracticability of undue regulation or abolishment of wage deductions in this industry but evidence of the complete fairness and totally voluntary nature of participation in wage deductions by the industry's employees. He furthermore demonstrated the unfairness of the division's present regulations in the application of Section 3-m of the act relating to the cost of deductions made for facilities furnished by the employer.

Others testifying in opposition to prohibition or further regulation or restriction of wage deduction practices were: W. N. Banks, president of the American Cotton Manufacturers Association; Earle R. Stall, president of F. W. Poe Mfg. Company; William P. Jacobs, of the Cotton Manufacturers Association of South Carolina, and president of Presbyterian College; T. M. Forbes, secretary, Cotton Manufacturers Association of Georgia; John W. Erwin, manager of Piedmont Mill Stores Association; and others.

All of these men supplemented and supported the original testimony of Dr. Murchison, which is digested in brief below:

Dr. Murchison first protested against the inadequate time given to make a thorough study and presentation of the problem, which, he said, had not been considered by the industry committee in its hearings; nor had it been comprehensively studied by the government or any other agency, and "yet with but two weeks' notice we are called upon to consider a subject so vitally important to the welfare of our employees".

The question of wage deductions and the practices surrounding it, he pointed out, are the outgrowth of employer-employee relationships which have existed since the beginning of the industry, and which were necessary for the establishment and growth of the industry. Most mills were established in the wide open country, or in villages or in small towns, and the mills were under the necessity of having to build and maintain homes for their employees. To take care of these communities, it was likewise necessary that the mills provide facilities for schools, water and sewerage, mercantile activities, etc.; and later, facilities for electricity, gas, fuel, medical, hospital and general welfare facilities.

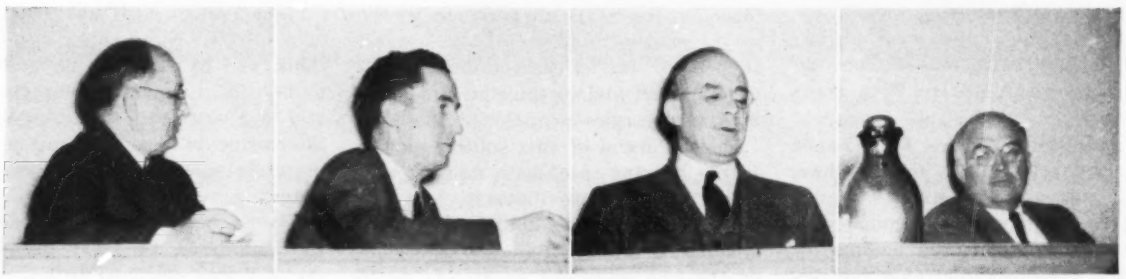
Provision of these facilities by the employer, he pointed out, "has become an integral part of the social and economic structure of the mill village"; and he cited the list of services for which one mill reporting to him makes wage deductions as follows: Cash advances, rent, electric current, coal, wood, doctor's and hospital bills, store accounts, Y. M. C. A. dues, sick benefit insurance, city taxes, county taxes, Social Security taxes, and miscellaneous.

Dr. Murchison pointed out that all of these deductions—except those required by law—are made on the request and instruction of the employee, and "if employees themselves find them useful and desirable, all other evidence is merely confirmatory."

"Rental charges on mill-owned houses," he continued, "are always lower than on neighboring houses of similar character rented for commercial purpose. Our evidence also indicates that coal, wood, ice, electricity, gas, when supplied by the mills, are always at lower cost than when procured from dealers, or from the public utilities.

"Prices of merchandise in company-owned or affiliated stores are always comparable with or lower than those prevailing in competitive establishments located in or about the community and providing a similar type of merchandising service. Moreover, buying in such stores is never mandatory, and is alway on the preference of the employee, who will buy either because the store is more conveniently located, or the goods are better, or the prices are lower, or because he does not have credit standing elsewhere."

But, for whatever reason he is actuated, Dr. Murchison said, "the choice is to his benefit. This benefit to the employee, his greater well-being through greater comfort, greater convenience, greater economy, is the original and major purpose of the system. It is not operated primarily for purposes of profit, and indeed in many cases it is frequently or chronically a source of financial loss. If, in individual instances, and in certain types of transactions, profits are shown, they



Caught by "**Cotton's**" camera while testifying at the wage-deduction hearing, left to right, **W. N. Banks**, president of the American Cotton Manufacturers Association; **Earle R. Stall**, president of F. W. Poe Mfg. Company; **Claudius Murchison**, president of The Cotton-Textile Institute; and the examiner, **Thomas Holland** . . . . . .

are not related to excessive prices or to any form or degree of exploitation, but to the performance of services or the furnishing of facilities more cheaply or more efficiently or more conveniently than they could be supplied from any other available source.

"Consequently the system is one which has added to, and not taken from, the real wages of the employee."

Dr. Murchison next dealt with the mill village, and demonstrated the fallacy of present regulations in ascertainment of cost. Despite the fact that villages are operated at a loss, present regulations provide that while taxes and maintenance charges may be taken into account, capital investment involved can be allowed for only on the basis of its depreciated value; and a return of 5½ per cent permitted after accumulated depreciation. He showed how unsound this procedure is; that it prohibits the recovery of capital from investment while at the same time makes mandatory the complete depreciation of investment. The principle of depreciation as developed by the Bureau of Infernal Revenue is of blanket character, he showed, and its use is justified because of the diminishing income productivity of specified capital goods and the necessity of ultimate replacement.

Even the allocation of ordinary maintenance costs to rental charges in character, use and convenience, the purposes of the act with regard to the protection of the wage have been satisfied."

Dr. Murchison expressed the belief, for the industry, that the act contains no authorization for rules and regulations which would disrupt an employer-employee relationship which imparts its greatest benefits to that group of workers the act was designed to protect. The industry does not fear the act, but rather the wage-and-hours division's interpretations of it, he said, and cited that whereas Congress stated that minimum wages, under the act, when paid in the form of customary facilities, must be valued at "reasonable cost", the wage-and-hours division in effect, in its interpretations, cancels out the word "reasonable" and substitutes its own language, which is that "the term 'reasonable cost' in Section 3-M of the act is hereby determined to be not more than actual cost."

He pointed out that ascertainment of actual cost of most facilities supplied by corporations is hardly ever reached with complete accuracy; embracing a myriad of factors, most of which can be computed only after the passage of considerable time. "But pay-days come every week. Wage deductions are customarily made every week. To these deductions, the wage-and-hour division, according to its present regulations, would apply a wage prescription the fulfillment of which defies all the powers of scientific accounting."

"If prices on goods in company stores are on a comparable basis with those of similar goods sold in competing stores in or about the same community and providing similar services," Dr. Murchison said, "that would constitute adequate assurance that the employee is being protected within the scope and purposes of the act, and in no sense being exploited when he instructs the mill to deduct the purchase price from his wages."

Emphasizing again that use of any company-supplied facility is purely voluntary on the part of the employee, and demonstrating that no service charge is made for handling deductions and that the mill always absorbs the cost of handling them, Dr. Murchison said that, "if there is need further to clarify the considerations involved in this matter of wage deductions, perhaps it can best be done by assuming a situation which would exist were such deductions dispensed with.

"If regulations regarding deductions are made so complex, so onerous and so uncertain as to place the mills in chronic danger of alleged violations of the law, the practice of deductions will have to be discontinued. In this event financial loss to the mills will be of no consideration. All material consequences of importance will be borne by the employee.

"Because of the uncertainty of collections, and high percentage of uncollectable accounts, the mills will be unable to supply customary facilities at the low level of prices previously existing. Consequently the purpose of such facilities would no longer exist and their provision by the mill would accordingly diminish or disappear.

"For the employee the first result, therefore, would be an appreciable rise in the cost of living. A second consequence would be the inconvenience and hardship resulting from the shrinkage or loss of credit. Under the system of deductions mills not only customarily supply important facilities for living; they also frequently make substantial cash advances. The employee is always in a position to hypothecate his earning power as a basis of credit. He has available not only his realized earnings, but his future earnings.

"With the abandonment of the plan he is left only in a cash position. He has no resources other than the earnings which have actually been paid to him. Consequently, if he is to meet needs which require greater resources than those at hand he has no recourse other than commercial credit agencies and loan sharks. If he can procure credit from the former, he suffers the expense of high carrying charges and high interest rates. If he is not rated as a good credit risk he turns only to the loan sharks. In no event can he supply himself with the necessities of

(*Continued on page* 81)

A "**Cotton**" snapshot of some of the mill witnesses and observers at the wage-deduction hearing in Washington; including **H. O. Ball**, of Jackson, Ga.; **John W. Erwin**, of Spartanburg; **W. N. Banks**, of Grantville, Ga.; **W. P. Jacobs**, of Clinton, S. C.; **Clarence R. Miller**, of Dallas, Texas; and **Russell T. Fisher**, of Boston . . . . . .

cannot possibly be made with any degree of accuracy, he pointed out, since the deductions must be made at frequent intervals, whereas costs come at longer and varying intervals. He showed also that houses built at different times have divergent original costs, and that "a rigid application of the principle of actual cost produces incongruities in rental charges which have no justification in the character of the houses involved."

"The only true and practicable criterion of costs as contemplated in the act would seem to lie in the comparability of values. If it is readily apparent from actual investigation that the housing facilities provided by the mill are furnished at a cost comparable with, or below rental prices which prevail on neighboring properties similar

Progress in Bobbin Enameling

By Emmet H. Steger

Sherwin-Williams Company
Charlotte, N. C.

PAST PRACTICE in textile mills in the painting or enameling of bobbins has not generally been up to the same standard of efficiency and effectiveness characteristic of mill practice in most other directions. Usual practice has been to apply bobbin enamel by a tedious hand method whereby not over 1,000 bobbins were usually handled, with very irregular thickness of film and width of tip; with some of the better methods turning out not over 3,000 or 4,000 per day. Many mills have had serious difficulty as a result of using materials for bobbin enamels picked up in emergencies, without knowledge as to the various types of paint. Commonly a mill would locate the desired color and use the paint or enamel regardless of the vehicle or pigment content; as a result, it would not dry properly and in many instances, even when dried properly, would soften up from the heat developed by the spindle speed or in the shuttle or soften from conditioning liquids.

Mills, therefore, will be interested in the development of a special bobbin tipping machine and of bobbin enamels developed particularly for the purpose. The machine was developed by D. A. Jolley, formerly an executive of Cannon Mills and was used to demonstrate a new type of bobbin enamel at the Southern Textile Exposition in April. The machine applies bobbin enamel automatically instead of employing the slow hand-method of the past, and will tip anywhere from 10,000 to 14,000 quills per day; using approximately one pint of the new bobbin enamel for this many bobbins. By certain adjustments, the machine can be adapted to paint any type of bobbin or quill.

The machine is shown in the accompanying illustration. Bobbins or quills to be painted are placed in the white metal container at the right, and the operator takes them out of the lower part of this container and places them on a spindle on the bobbin tipping machine which is of the correct size for the type of bobbin or quill being painted. The spindle is readily adjustable to suit the type of bobbin or quill. The bobbin enamel is in the small square can at the top of the machine, and flows by gravity to a specially designed brush. The quantity of paint that reaches the brush is regulated by a set screw.

After being painted in the machine, the bobbins or quills are placed on the rotating rack shown at the operator's right. By the time they reach the front end of the machine they are dry to handle and fall off the rack into the bobbin box.

The new bobbin enamel was developed to meet the following specialized requirements of the application: A wide series of colors; a quick drying, hard finish; a surface that will not stain textile goods; and ability to withstand the softening action of most penetrants in yarn conditioning liquid that may cause bobbin enamels to crack or peel from quills.

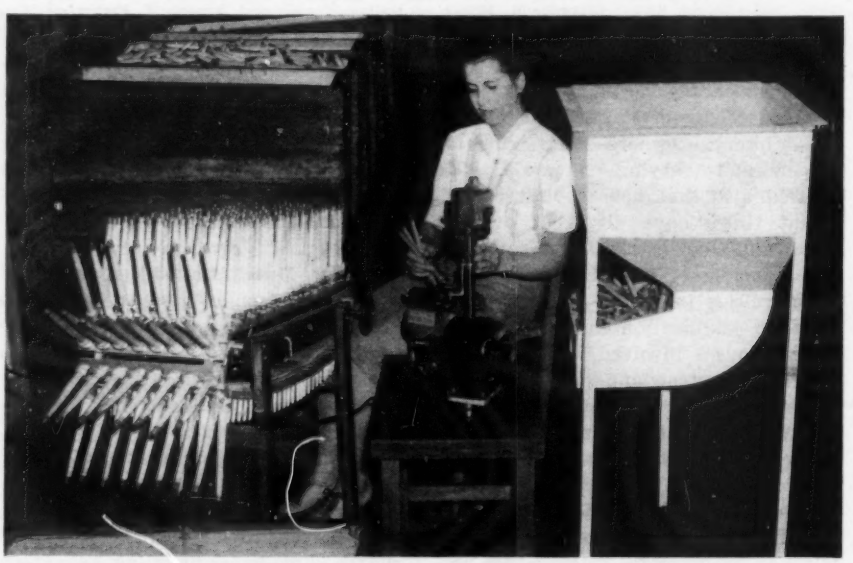
Study of the subject, in connection with the development of special bobbin enamels and the tipping machine has developed certain requirements and precautions that the user of the bobbin enamel should keep in mind, whether the enameling is done automatically or by hand.

Important Precautions Before Painting

Preparation for Painting: The room where bobbin enamel is applied should be clean and well lighted. Bobbins cannot be painted satisfactorily in card rooms, weave rooms, machine shops or in rooms where there is an excessive amount of moisture, grease. dust or lint in the atmosphere. The temperature should be not less than 70 degrees Fahrenheit.

Brushes: Clean brushes should always be used. Brushes that have been used in other types of paint will not be satisfactory. A flat, metal-bound brush, one-half to one-inch in width, made of best bristle —for lacquer—should prove the most satisfactory for tipping bobbins. If the entire bobbin is to be coated, then a brush 2 to 2½ inches in width, made of the same type of bristle, may be used with best results.

Preparation of Surfaces: It is vitally important to understand that any grease or foreign substances of any kind on the bobbins that are to be painted will result in



The Jolley bobbin-enameling machine in operation

unsatisfactory performance of the material. The grease that may normally be transferred from one's hands to the bobbin by constant handling will prevent proper adherence of any bobbin enamel. Of course, lubricating oils, lubricating greases and materials of this kind will also prevent satisfactory bonding of the bobbin enamel to the surfaces.

How to Clean Bobbins: A special bobbin wash has been developed to remove objectionable substances from all bobbins before painting is undertaken. If old peeling and broken paint is on the bobbin, this wash will remove it providing the old paint is of a spirit or pyroxylin base. All that is necessary is to soak the surfaces to be painted with this wash for a few minutes, and by using a rag or waste, the surfaces may be properly cleansed and made ready to receive a bright new coat of bobbin enamel. If the surfaces are not smooth, then they should be sanded with specified sandpaper before applying bobbin enamel. The wash is highly volatile and will not cause the barrel of the bobbin to shrink or crack. Investigation over more than ten years has definitely established this fact.

Miscellaneous Suggestions

Bobbin enamel will handle to dry in 20 minutes and be hard in four hours in clean room at a temperature of 70 degrees Fahrenheit. However, it is safer to let this material dry overnight or longer before putting the bobbins or quills into production.

A method for drying each bobbin separately, without contacting any other bobbin or any other surface, should be provided. Some mills do this by painting the bobbins on a discarded spinning frame and leaving the bobbins on the frame long enough to dry to handle.

It is better to use bobbin enamel out of small containers since it is highly volatile and the evaporation of the vehicle throws the material off balance. However, additional thinner may be added to restore the bobbin enamel to the right brushing consistency.

After using brushes in bobbin enamel, before they are put away, they should be thoroughly cleaned by washing in the specially developed bobbin wash mentioned, dried thoroughly with a rag and wrapped in a piece of paper, and stored by laying down flat. Brushes should not be left standing in bobbin enamel overnight or for any period of time that they are not in use.

The brushes used in bobbin enamel should not be used in any other type of paint. Bobbin enamel should not be thinned with linseed oil, turpentine or any other thinner except bobbin enamel thinner. A soft bristle brush, and not a coarse one, should be used, and the brush will hide and cover better if it is kept full of bobbin enamel.

◆

New Novel Has Setting in Southern Mill Village

Thelma Thompson, of Thomaston, Ga., has written another novel with its setting in a southern cotton mill village. Her first book, "Give Us This Night", was published in 1939. Its setting was a Georgia cotton mill town; its main characters were associated with the mill management and—most refreshing—the story and descriptions presented life in a southern mill village in a wholly fair and accurate way.

Her new book, "Dr. Red", published on May 9 by Arcadia House, is the touching love story of a nurse from Chicago who takes up work in the hospital of a cotton mill set in North Georgia. The story is effectively done and once more Miss Thompson has faithfully and truthfully depicted social conditions and relationships in a southern textile community. Her honest, unbiased treatment of conditions is in heartening contrast to the muckraking, deliberate misrepresentations of the cotton mill village usually employed by writers of fiction—and comes from a first-hand knowledge of the real facts. The author, in private life Mrs. Walter Slayden, teaches in the Thomaston Public Schools. The price of "Dr. Red" is $2.00. Copies may be ordered through COTTON's Book Department.

◆

Fiber Seminars for DuPont Men

The Philadelphia Textile School, Philadelphia, Pa., is conducting a series of seminars on various phases of cotton, wool and worsted textiles for a group of technical and research men of the DuPont Company organization in Wilmington, Del. Conducted semi-weekly, each class starts off with an hour lecture by the regular school instructor in each course. Courses are given in raw materials, yarn manufacture, weave formation, fabric analysis, chemical and physical technology, knitting, economics and marketing and costing.

STA Meets in Reidsville

The spring meeting of the Northern North Carolina-Virginia division of the Southern Textile Association was held on April 19 at Reidsville, N. C. The meeting was devoted to a discussion of the wage-and-hour law and mill labor problems.

T. C. Pegram, superintendent of Erwin Cotton Mills Company, Cooleemee, N. C., was elected chairman for the ensuing year, and Howard Barton of Marshall Field & Company, Spray, N. C., was elected vice-chairman. J. O. Thomas of Marshall Field & Company was re-elected secretary of the division. J. E. Waverly, Edna Mills Company, Reidsville, N. C., was elected a member of the executive committee.

◆

Cotton Spinners Become Part of National Cotton Council

Cotton spinners of the cotton belt have become an integral part of the National Cotton Council of America closing the final gap in the ranks of the council's battle for consumption. This move brings the spinners into active council membership along with cotton producers, ginners, warehousemen, merchants and cottonseed crushers.

◆

Report of Wage-Deduction Hearings

(*Continued from page* 79)

life under terms more favorable than those he previously enjoyed.

"Because we vigorously dissent from an administrative interpretation and policy which ultimately means for the employees a higher cost of living, and the loss of their financial security, we make the following recommendations with respect to rules and regulations governing the matter of permissible wage deductions from the basic minimum wage in the textile industry:

"1. That the present interpretation of Section 3-M be modified by abandoning the word 'actual' as descriptive of permissible costs and reverting to the word 'reasonable' as descriptive of such costs, in line with the exact language of the statute.

"2. That the criterion of reasonable costs to the established presence of competitively comparable prices as prevailing in similar wholly independent sources of supply.

"3. That all deductions be permissible only on expressed assent and instructions of the employees affected.

"4. That for the purpose of greater equity and administrative practicability, the criterion of reasonable costs, be applied insofar as is possible to the aggregate of facilities being furnished to employees rather than to each separate and individual transaction."

Processing Rayon Staple (A Progress Report)

By Heath O. Kennette
E. I. du Pont de Nemours & Co., Inc.

THE PAST TEN YEARS have seen a tremendous espansion in the spun rayon staple field. The consumption of rayon staple in the United States in 1930 was roughly 800,000 pounds and in 1940 was approximately 99,000,000 pounds. The world's consumption of rayon staple in 1930 was roughly 6,000,000 pounds and in 1940 was approximately 1,350,000,000 pounds.

There are many reasons why rayon staple has expanded so rapidly. One of these is that rayon staple has the ability to blend readily with all known fibers and therefore offers almost unlimited possibilities in fabric development. In continental Europe its expansion has been due in part to legislation requiring various percentages of rayon staple in certain fabrics. To date approximately 85 per cent of the rayon staple sold in America has been used on the cotton system of yarn manufacturing. While the woolen and worsted manufacturers have consistently increased their consumption of rayon staple it is indicated that the cotton system will continue to be the leader for some time to come. This is primarily because of its advantage in yarn manufacturing cost and the progressive attitude of most of the cotton manufacturers.

Staples in Use

At present there is a definite trend toward the use of 3 and 5½ denier staple in the longer lengths (2½-inches to 3 inches) on the cotton system. The use of the longer staple results in increased yarn strength and a more worsted-like fabric. The use of 2½-inch staple on the conventional cotton equipment is not entirely satisfactory from a processing standpoint. When using 2½-inch staple it is helpful to use the floating middle top roller method of drafting or to eliminate one set of drafting rollers entirely on the drawing and fly frames in order to take care of the length. It is the concensus of opinion that the average cotton mill will not be able to handle 3-inch staple on a production basis and therefore must revamp its present equipment or purchase new equipment if they wish to process staples longer than 2½ inches.

The textile machinery manufacturers are making great strides in adapting their machinery to process rayon staple varying in length from 1½ inches to 3 inches. The oustanding trends in the yarn manufacturing equipment which the machinery manufacturers are developing for the longer length staples on the cotton system are:

Pickers. Most of the machinery manufacturers and mills agree that the sandwich method of blending fibers is the safest method to use prior to picking. The main differences in available one-process pickers for 2½-inch to 3-inch staple are in the use of the Kirschner beaters versus solid upstroke pin beaters, and the intermediate hopper feed controls versus blending reserve controls. It is claimed that the solid upstroke pin type of beater does not damage the long fibers to the same degree during picking as the down stroke Kirschner type.

Cards. Considerable work is being conducted by the various machinery producers on different methods and types of cards for carding rayon staple and blends of rayon staple and wool having a length of 2½ inches to 3 inches.

Some of the producers have modified wool type cards of widely different designs. Others have modified cotton cards equipped with three sets of workers and strippers replacing the standard top flats. The wool type cards are designed for Bramwell feeds and the modified cotton card for picker laps.

Each of the producers of cotton cards can supply standard cards with certain modifications which should help in processing the longer staples. The essential modifications are long nose feed plate, special pulleys to permit running the licker-in at 150 to 165 rpm rather than at 425 rpm, and in some cases special types of clothing which do not load up as readily as regular clothing on the cylinder, doffer and top flats.

Drawing. All the machinery producers apparently agree that cushioned-type top rollers on the drawing frames give superior results to metallic top rollers. They also agree that large diameter rollers are desirable. The available drawing frames are:

(1) The standard type four roller drawing frame built with wide stands designed for long staple.

(2) The five roller drawing frame which is fed from a lap made on a sliver lap machine.

(3) The four roller bi-coil drawing frame fed from cans and delivering two slivers per can. Two or more processes are used depending on the results desired. The use of two slivers per can reduces the number of cans needed at the second drawing and slubber.

Long Draft Roving. A number of different types of drafting arrangements are available on the long draft roving frame, which takes the drawing sliver and produces a roving ready for spinning. The essential differences are roller drafting versus a combination of rollers and double apron drafting. Large diameter front rollers are recommended for all types of roller drafting frames.

Long Draft Spinning. The major differences between the available long draft spinning frames designed to handle 1½-inch to 3-inch staple are:

(1) The double apron type of drafting.

(2) The single apron type with one or more buffer top rollers.

(3) The four roller type employing two buffer top rollers.

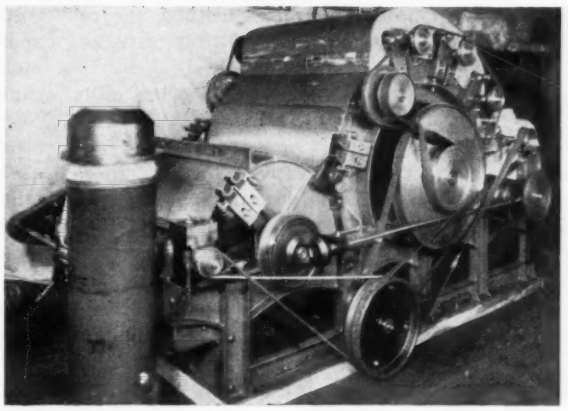
All of the cotton type machinery manufacturers are employing the long draft principle throughout their new equipment in order to shorten and cheapen the yarn manu-

Rayon staple fiber entering feed rolls of regular cotton picker. (American Viscose photo.)

Abstract of address presented at an institute on rayon at the textile school of N. C. State College, Raleigh, N. C., in May.

facturing process. These developments are the direct result of the economic pressure for superior products at a lower manufacturing cost.

It is generally accepted that the manufacturing cost of spun rayon yarns by the cotton long draft system is the cheapest of all the systems used for producing medium count yarns suitable for dress goods, suitings, etc. In order to make the saving in yarn manufacturing cost by using the long draft system and to produce comparable fabrics to those produced from yarns made on the conventional systems, most manufacturers agree that the foundation work at the picker and card must be greatly improved. In other words, as the doublings are reduced and the drafts increased, the uniformity of the lap, card sliver, and roving from inch to inch and yard to yard must be improved to compensate for the shortening of the process. The machinery manufacturers are attempting to accomplish this through better control of the fibers at each stage during yarn manufacturing.



Special card designed for rayon staple fiber, with special flat arrangement. (Saco-Lowell Shops photo.)

Mill Processing Problems

There naturally have been many problems to overcome in the mill processing of the millions of pounds of rayon staple which have been used in the United States in the past ten years. We will discuss a few of the main problems encountered and some of the methods used to correct them.

For a number of years the importance of adequate relative humidity (55 to 65 per cent) in the opening, picking and card rooms, as well as throughout the other areas of the mill, was not recognized. In fact, a few mills still have not recognized its importance. During this time the mills experienced much trouble from static, splitting laps and poor handling of the laps at the pickers and cards. Much trouble was also experienced with web breakage and poor web formation at the card. The failure to recognize the importance of humidification at the pickers and cards was possibly influenced by the fact that cotton, with its natural oils and waxes, does not require humidification during these operations. In fact the presence of 55 to 65 per cent relative humidity retards the cleaning of cotton rather than helps it. Because of this, very few cotton mills were equipped with humidification in the picking and carding departments. When the importance of humidification was recognized and the mills made adequate provisions for humidification and conditioning of the staple prior to picking, the problems of static and splitting laps were greatly reduced. We wish to point out however, that excessive humidity can be very dangerous, the mills must use judgment in meeting their requirements.

In recent years the rayon manufacturers have been able to further reduce static and splitting laps at the pickers and cards through various changes in the methods of manufacturing the staple. It is now possible to eliminate static splitting laps and web breakage through the use of proper humidity and the use of top and bottom lap split preventer fingers on the pickers.

Rayon staple is being handled successfully on both the conventional cotton pickers and on the one-process picker without major changes. All types of beaters have been tried under various conditions. The Kirschner type beater is the one in most general use. Care and judgment must be used in setting the Kirschner beater to the feed rolls. If the setting is too close, trouble will be encountered with neps.

Since rayon staple is supplied in a reasonably well opened state free of foreign matter, no cleaning is required. The main object of the picker in the use of rayon staple is to prepare the staple for carding by thoroughly opening the staple and producing a uniform lap. We cannot over emphasize the importance of lap uniformity.

In the past few years the number of blends of rayon, wool and acetate or other fibers has increased to the point that the mills must use some other adequate means of identification. Various methods of tinting the stock before or after the blends have been made, are available. The tinting methods, in use are by means of spray heads in the hopper opener or bale breaker prior to picking, at the picker beater, or at the card. When the hopper method of tinting is used a great improvement in the uniformity of the tinting can be made by using two hoppers in tandem and applying one half of the tint in the first hopper and one half in the second hopper. The stock is then generally blown by air to a storage bin and allowed to age a few hours before using. The mill should use as little tint as possible for identification in order that the effectiveness of the finish which the rayon producer puts on its staple may not be impaired. If excessive quantities of tint are used troubles of various types are encountered.

Carding. The main problems which have been encountered with rayon staple during carding have been: lap splitting, web breakage, loading or the licker-in and cylinder. All of these problems have been materially influenced by the presence or lack of adequate humidification. If the relative humidity is much lower than 55 percent, trouble usually results. When the cards are dull or the wires become damaged loading usually results. We have experienced loading of the cylinder when an excessive amount of certain types of tinting solutions have been used. The loading of the licker-in can generally be eliminated by reducing the speed. Occasionally it is necessary to reduce the speed to 150 to 165 r.p.m. before the loading is entirely eliminated. The effect of low licker-in speed on the breaking strength and quality of spun yarns has not been fully determined. The web breakage in many cases can be taken care of through change of tension. However, when processing coarse deniers of short length, which generally give more trouble than the fine deniers, it has been necessary to use a pan to support the web.

It has been found, in general, that if the card is in good shape and is doing satisfactory work on cotton, that no trouble will be experienced in changing over to rayon staple. Normal card settings used on a good grade of cotton usually work equally well on rayon staple. Because of the great number and types of blends used in rayon staple work today, it is impossible to set up any standard set of rules or conditions. Generally the top flats are run as slow as possible and the top strips reduced to a minimum. While a number of mills have gone to considerable trouble to remove the mote knives and replace them with a steel under casing we have not found this necessary in our work.

For the past few years we have noted that the mills running rayon staple have been increasing the pounds per hour turned out by the card. We wish to point out that there is a de-

inite relationship between the capacity of the card and the uniformity of the yarn produced.

Drawing. Few major problems have been encountered at the drawing frame. However, many of the problems in subsequent operations have been traced to improper roller setting and tensions at the drawing frame. The general tendency has been to set the rollers too close resulting in non-uniform sliver. The trend in type of top roller now appears to be toward the cushioned type roller.

Most of the mills which have been running 2-inch to 2½-inch staple have not been able to spread their rollers sufficiently to handle these staple lengths. Many of the mills have found that they could obtain fairly satisfactory results by removing the third set of rollers and drafting on three rather than on four rollers.

Roving Frames. The majority of the mills starting with 1.5 denier 1½-inch bright rayon staple in the early thirties were accustomed to processing short cotton. These mills began by using similar roller settings and twist factors as employed on short cotton. Under these conditions they experienced low yarn breaking strength, poor weaving results and high fabric shrinkage. The mills gradually found that as they opened up the roller settings at the drawing and fly frames and reduced the twist in the roving that the yarns became stronger and more uniform. These yarns made under more favorable conditions showed a marked improvement in weaving performance. Some of the mills still have a tendency toward excessive twist, particularly when old equipment is used.

The mills found that by employing the basic carding and spinning principles used in processing fine long staple cotton that the mill processing problems on rayon staple were greatly simplified. The cotton mills which were designed for short cotton found it necessary to do considerable work, such as reboring the roller stands and widening the top clearers before they could secure the desired roller settings and obtain the best results. These mills also found it advisable to reduce the speed of the fly frames about 25 per cent. This was necessary since a reduction in the twist in the roving caused an increase in the speed of the front roller to a point that it interfered with the roving taking the twist in a proper manner.

When the mills began using 2-inch and 2½-inch staple they were unable to spread the rollers sufficiently for these lengths. This necessitated resorting to the slip draft method employing a floating top middle roller. While very large poundages of rayon staple have been run by this method, the results have not been entirely satisfactory.

A few years ago some of the mills began to install long draft roving frames designed to handle 2-inch staple. The results from some of these frames were so encouraging that the mills began demanding that the machinery manufacturers build long draft roving frames which would be designed to handle staple of from 1½-inch to 3-inch in length. Most of the machinery builders have built roving frames which they claim will handle up to 3-inch staple.

Spinning. Most of the problems at the spinning frames with rayon staple can be traced to processing troubles encountered earlier in the operations. Since the back rollers on the conventional spinning frames are non-adjustable and are set at less than the normal fiber length of the rayon staple used, the floating middle top roller has become standard practice on this type of spinning frame.

In recent years large quantities of rayon staple have been processed on the long draft spinning. This system apparently gives a slightly greater yarn breaking strength than the conventional system when the roll settings are adequate for proper drafting of the staple length. If the staple is slightly too long, there is not much room for adjustment and the results are then less satisfactory than when the old conventional frames are used.

All the new spinning frames being designed for 3-inch staple employ the long draft principle in some form.

In the spinning of rayon staple most mills employ drafts and speeds normally used on cotton. The physical condition of the equipment generally controls the speed at which the frame will operate satisfactorily. The amount of twist used at the spinning is generally controlled by the type of fabric being produced.

Spooling and Warping. Most of the problems at the spooling and warping are related to the quality of the yarn as supplied by the spinner. All types of spooling and warping normally being used on cotton can be adjusted to run spun rayon yarns satisfactorily.

When the slashers are equipped with positive drive feed the warper must use more care in preparing his beams in order to eliminate loose ends.

Slashing. The question of proper slashing technique is still very debatable. Much work is being conducted on spun rayon slashing and we hope the next few years will bring some answers to the general problems involved. The general trend in the past few years has been toward a starch or gum base size primarily on a basis of cost. The cotton slasher is used principally on spun rayon yarns because the equipment is generally available and because of the large volume of moisture to be dried. Most mills agree that the slashing stretch should be held down as low as possible and should not go much over 1½ per cent.

Weaving. Rayon staple like continuous filament rayon yarn is subject to variations in humidity and tension, and for this reason the same precautions should be observed. More trouble is experienced with shedding or fly from spun rayon than with continuous filament rayon. This is one of the problems which the size manufacturers are trying to overcome.

If the yarn is properly constructed and a good slashing job is done no major problems should be experienced in the weaving of spun rayon provided, of course, that the loom is in good condition. The development of looms designed especially for weaving spun rayon fabrics is being watched with much interest.

Through the combined efforts and cooperation of the mills, machinery manufacturers, rayon producers, and allied textile industries, excellent progress is being made in developing the proper technique for handling rayon staple and the various blends of rayon staple and other fibers. The progress made in the last few years has been phenomenal. More thought is, however, being given to spun rayon today than ever before and we can, therefore, confidently predict that the rayon staple industry holds great promise for the future.

"Scientific Price Management"

The Eddy-Rucker-Nickels Company, Harvard Square, Cambridge, Mass., has published "Scientific Price Management I" by Allen W. Rucker. The book contains 15 different types of problems dealing with prices and pricing taken from actual case studies, ranging from simple price-cuts to problems involving advertising allowances, freight allowances and sales bonuses. The author points out, few know how to compute the added volume needed to compensate for price discounts or added direct costs, the volume requirements varying with the percentage of price-discount or cost increase and with the original gross margin of profit. Included are six calculator charts to find the foregoing. It is a working manual for executives. Price $5.00 per copy.

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Thomas J. Clines has been elected vice-president of the New York Terminal Warehouse. The company has regional offices in Atlanta, Ga.

Immunized Cotton

By Wm. H. Barnhardt
Barnhardt Brothers, Inc.
Charlotte, N. C.

RESIST cotton yarns called "immunized" are being widely used to produce decorative effects in hosiery, suiting fabrics, shirting fabrics, handkerchief fabrics, dress goods, curtains, draperies, automobile upholstery and plush fabrics, woolen and worsted fabrics, etc.

Immunized cotton — natural, bleached or colored—woven as a decorative yarn in greige goods, which are subsequently piece-dyed as orders for various colors are received, lends itself to production of a large range of color combinations. Since its behavior toward dyestuffs is different from that of cotton, wool, silk, etc., multi-colored effects can be obtained by simply cross-dyeing the same greige fabric in desired colors.

The process of immunization is patented. In brief, it consists of dyeing cotton yarn and immunizing it, i.e., making it resistant against certain classes of dyestuffs; followed by coning or preparation of any type package required.

Resist-dyed silk and acetate rayon are used to a certain extent for this purpose, but immunized cotton possesses a number of exclusive characteristics. Immunized cotton first appeared in the late 1920s and has had a steady growth ever since.

A particular advantage is that immunized cotton will not melt with hot ironing. Since it is a cellulose ester, it will in general dye with acetate dyes. Where immunized cotton and acetate rayon are mixed, the acetate will be dyed a considerably heavier shade, but this is rarely done. Usually the immunized cotton is dyed or bleached and then fabricated with cotton, rayon, silk, or wool, to produce multi-colored effects, by piece dyeing. Under these conditions the shade of the immunized cotton is not affected by a wide range of direct, developed, sulphur, acid or chrome dyes, thus many interesting effects can be obtained.

With special precautions which are readily available, other fabrics decorated with immunized cotton can be mercerized and vat dyed. Immunized cotton will of course stand up very satisfactorily under the ordinary processes of singeing, bleaching, sanforizing, repeated launderings, etc.

Cross-dye effects may also be obtained by weaving white or natural immunized cotton with regular cotton. In the greige goods, the presence of natural or immunized cotton is usually shown by a fugitive tint. The tensile strength and resistance to scouring, singeing, chlorine, peroxide bleaching, high temperature dyeing or drying is practically the same as that of ordinary cotton. The cross-dye effects are obtained by one or two bath methods using direct, developed, or selected vat dyes for the cotton, and acetate dyes for the immunized cotton. Any cotton dye which will stain acetate will also stain immunized cotton; so that dyes should be checked for this property before using.

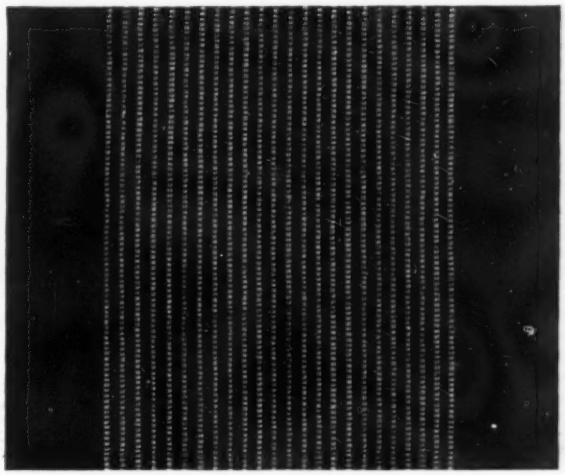
Manufacturers of piece-dyed cotton suitings have found immunized cotton especially adaptable for striping particularly in export goods, as cotton fabrics which contain synthetic yarn are subject to a higher duty than are all-cotton fabrics. This also applies to our domestic cutting-up trade, as fabrics containing synthetic stripe or decorations are subject to a higher wage scale.

Woolen and worsted manufacturers are using immunized cotton in fabrics that are woven in the greige and then later cross-dyed with chrome colors, which process includes a 3½-hour boiling. The trend today for the better type fabrics is toward faster colors which are obtainable under the chrome dyeing process.

The principal uses of immunized cotton in hosiery are for identification purposes (featuring branded lines by means of special colors which are often registered in the U. S. Patent Office) and for use in "fake wraps". Immunized cotton has exceptional ability for staying in fake wrap patterns due to its not being slick.

Manufacturers throughout the United States and Canada are finding immunized cotton very advantageous for their use, and indications are that the production of immunized cotton will increase at a very rapid rate during the next few years. Preparations have been made to handle the anticipated increased volume.

The immunizing process is quite a lengthy operation, requiring approximately two weeks for all of the chemical processes. However, the processors of immunized cotton carry in stock substantial quantities of various colors and sizes.



A sample showing results of using immunized cotton in vat-dyed handkerchief fabric. The ground weave of the original material was a solid red, with the warp stripes made of immunized cotton showing up as white. The immunized cotton yarn yarn was resistant against the dye used on the woven fabric. . . . .

Slashing-Weaving Discussed by Alabama Operating Executives

THE ALABAMA Textile Operating Executives held the regular spring discussion meeting at Auburn, Ala., May 10, with the textile school of the Alabama Polytechnic Institute acting as host for the occasion. This was the second round-table meeting of the association, which was organized the summer of 1940 and which held the first discussion meeting in November of the same year. The meeting was well planned and capably led. Slashing and weaving subjects were the topics for the day. Frank K. Petrea, superintendent of Samoset Cotton Mills, Talladega, Ala., and general chairman of the group, presided, with Fred F. Phillips, of Buck Creek Cotton Mills, Siluria, leading the discussion on slashing and J. Emmett Warren of Avondale Mills, Sylacauga, handling the weaving questions.

A brief address on the causes of warp yarn breaks in weaving was made by Walter T. Schreiber of the Department of Agriculture, who in the past has conducted a number of research projects on warp sizing at the Auburn textile school, and who in his address considered the importance of the tensile strength in yarns debatable, but rather considered the uniformity of elongation as a primary consideration. An abstract of Dr. Schreiber's paper follows:

Dr. Schreiber explained that on tests run in the plain weaving of 28s yarn, the tension on the single warp yarns varied from 4.5 to 14 grams over each successive weaving cycle, considerably less than one percent of the breaking strength of normal 28s yarn, and that assuming a loom beam made of dissimilar yarns, half of which have no stretch and half a stretch of 20 per cent * * * as long as tension is being exerted on the yarns having stretch, these yarns will increase in length, until the tension or load required to pull the loom beam has been shifted to the yarns having no stretch. Thus if a loom beam is composed of yarns whose stretch or elongation properties vary considerably, the tendency will be for the load to be carried by those yarns having the least stretch, causing breaks.

"Excessive tensions may be brought about by unequal elongation properties of the yarn. If the elongation properties of the yarns composing the warp sheet are not uniform, the load required to turn the loom beam will shift to the yarn or yarns having the least stretch and breaks may be numerous. If the elongation properties, however, are uniform, within practical limits, the tension on each individual yarn will remain the same as that initially exerted at the beginning of the weaving operation, and breaks will be at a minimum.

"Based on the previous reasoning, it would follow that in any scheme for evaluating or judging sized yarns, the actual tensile strength of the yarns would seem to play only a minor part, while a major consideration may be the elongation properties of those yarns or, more specifically, the uniformity of the elongation and set determinations of those yarns, made under comparatively small loads."

Mr. Phillips, leading the slashing discussion, asked the first question on the prepared questionnaire, which requested a method to prevent the third cylinder from making marks when slashing colored warp yarns for denim work, when the machine was stopped for doffing. This question was explained by the man asking it and he said that the mark appeared to be very much like a roller mark except that it was made where the yarn touched the third cylinder during the doffing period.

Cylinder Marks on Slashers

A representative of a mill in Alabama said that he had at one time had this trouble, but had overcome it. He referred the problem to his dyeing department and their report was that the warp should be washed so that no chemical is left in the blue yarn from the dyeing process. He tried this, neutralizing the warps at the same time and the cylinder marks disappeared. He went on to explain that it was not the third cylinder that was causing the trouble but that it was due to some chemical left in the dyed warp, and that if a certain kind of soap or cleansing agent is used in the preliminary process, there will not only be cylinder marks but plenty of hard size.

Cleveland Adams of Cowikee Mills, Eufaula, was called on and he reported the use of third cylinders on his slashers but has had no trouble with cylinder marks, as experienced by the preceding man, and he attributed the trouble to the formula used in sizing. To this the man reporting that he had remedied his trouble said that he had changed the formula but had not changed the equipment in any way.

The topic turned to temperature in the size box and temperature on the cylinders. Robert B. Horsley of Pepperell Mfg. Co., Opelika, said that 13 pounds pressure or a little under is kept in his cylinders because the stop valve is set to pop off at 13 pounds. Mr. Adams only keeps 5 pounds of pressure on his cylinders, as does J. L. King of the Clanton, Ala., plant of Alabama Mills Co., but another member said that he keeps about two pounds of pressure in the cylinders, which gives about 220 degrees F. on the third cylinder and he keeps whatever amount of temperature on the other two cylinders is necessary to dry the yarn. Mr. Horsley said that on his 4-cylinder slashers the pop-off valve is set for 30 pounds and that the tempera-

PLANNING THE MEETING. The secret of having a good discussion meeting is to plan it before the meeting begins. This snapshot by "Cotton" was made at the executive committee meeting at Auburn the night before the general discussion meeting the next morning. Those in attendance, left to right, **H. B. Bergfeld,** Bemis Bro. Bag Co., newly elected vice-chairman; **A. H. Randall,** Alabama Mills Company; **Joe Hyde** and **Emmett Warren,** Avondale Mills; **Ben Crawford** of Auburn's textile school and secretary of the Alabama group; **Frank K. Petrea** of Samoset Cotton Mills, chairman for the past year and re-elected chairman for ensuing year; **R. B. Horsley** of Pepperell (Opelika) pinch-hitting on the committee for John Baum (off to the wars); and **Fred Phillips** of Buck Creek Cotton Mills . . . . .

Report and photos by John C. Fonville.

SNAPSHOTS AT AUBURN. Some of those attending the meeting of the Alabama Textile Operating Executives on May 10 standing in front of Duncan Hall before the discussions began, left to right, **H. B. Askew**, National Ring Traveler; **Ted Wallace**, Keever Starch Co.; **Clyde Cobb** and **J. D. Whatley**, Nashua Mfg. Co., Cordova, Ala.; **Floyd McCollough**, Avondale Mills; **J. R. Whitehurst**, Medley Mfg. Co.; **Allen Jones**, Muscogee Mfg. Co.; **Jack Lawrence** and **F. B. McDonald** of Medley

ture of the size in the size box is kept at about 208 degrees F.

Yarn Wound Squeeze Rollers

In a discussion of using yarn wound squeeze roller on the slashers, one man said that he uses 2-ply yarn as it suits his purpose better, the yarn being composed of from 20 to 25 per cent cotton and the rest wool. It was the opinion of another member that the percentage of wool used in the yarn on the yarn-wound squeeze roll depends on the amount of size desired in the warp, and that the more wool used in the yarn on the roll the more size will be put into the warp, but he brought out that it was necessary to use some cotton in the yarn-wound squeeze roll or the wool in it would come apart. He uses the 2-ply wool yarn.

J. Emmett Warren of Avondale Mills was of the opinion that 2-ply yarn is as good as 3-ply yarn for the yarn-wound squeeze roll if there is an even twist in the yarn. To this another member said that he uses three turns per inch in his 3-ply wool yarn.

Someone brought up a question as to whether it is more satisfactory to use cheap or expensive wool yarn for this purpose and a report was given on a test run, the result of which was that it pays to get good wool yarn for wrapping the squeeze rollers on slashers, as when the yarn becomes too cheap there is likely to be hard spots and slugs, etc., in the yarn, which is not conducive to good running slashing.

Cloth on Calender Roll

In answer to the next question, which asked for a method of regulating the amount of cloth that is put on the calender roll in front of the slasher, Homer Roberts of Alabama Mills advised that there is no ironclad rule for this because on fine yarn it is possible to get by with less stretch than on coarse yarn. He endeavors to keep the stretch down to within one per cent if possible. Generally, when he runs a finer yarn he removes a layer of cloth from the calender roll and adds cloth for heavier numbers. The chairman said that this was his practice also, running 12s to 30s, and when a finer yarn is being sized they remove a couple of laps from the calender roll.

Mr. Petrea considered the question from another angle; and said that he thought it meant how does the slasher man determine when cloth should be added or removed from the calender roll, that is, how does he know, by feeling the warp where it leads from the squeeze rolls to the cylinder, or by feeling it at the split rod in front, or how? To this a man replied that the amount of cloth could not be regulated by yarn number because the number of ends in the warp also entered into the question, and added that some of the slasher men "feel" of the yarn to determine the need for adding or removing cloth on the calender roll.

H. D. Mullins of Merrimack Mfg. Co., Huntsville, said that at present his plant is only running one warp number, but that he has had other experience where he used two yardage counters, one on the calender roll and one on the rolls at the size box, and the amount of cloth on the calender roll was governed by the amount of stretch shown by the two counters. He also pointed out that the count of yarn *and* the number of ends affect the problem. When called on, George Harris, of Fairfax (Ala,) Division of West Point Mfg. Co., said that his plant uses equipment that permits the stretch to be controlled "to a very fine point", and also said that the section beams in the creel on the slasher are let-off positively; in other words, the yarn from the beams is fed into the size box instead of being pulled into it, and there is no stretch in the yarn whatsoever between the section beams and the size box.

B. E. Willingham of the Lanett, (Ala.) Division of West Point Mfg. Co., considered that Mr. Petrea had answered the question by bringing up the points of watching the yarn at the back of the slasher and at the split rods, and adjusting if it does not run right.

Variation in Per Cent Size

The third question asked for the amount of variation in per cent size that could be expected in warp yarns, and Homer Carter of Pepperell at Opelika explained that this could be affected by several things, such as weight on squeeze roll and the speed of the slasher, but that his plant attempts to keep the variation to a minimum. The discussion leader, Mr. Phillips, said that some men say that when adding 12 per cent size it can be expected to put from 11½ to 14 per cent size on. Mr. Adams said that he finds the variation to be in moisture content instead of percentage size added.

B. W. Whorton of Langdale (Ala.) Division of West Point Mfg. Co., reported that at his plant the amount of size added is checked weekly from every slasher, but that a test was run for the purpose of the meeting and on 10s yarn, 2200 ends, 10-beam set, there was a total of 2.38 per cent variation, which was about the same as on the regular weekly tests. Another member said that the percentage of size added does not vary over one-half to three-quarters of one per cent; the boil-off changes and the moisture content changes, but the amount of size percentage does not change much, being figured on the addition of from 11 to 11½ per cent.

One member, who had visited a mill in Georgia, told of a test run on 20s yarn and the variation was from 12.1 per cent to 15.1 per cent (result of 25 tests), and on 30s yarn the variation was from 13 to 14 per cent in actual percentage of size added.

Mr. Petrea asked if anyone had run a test to determine if the speed of the slasher affects the amount of size added to the yarn, and Mr. Horsley said that in a test conducted at his plant that on 22s yarn at 88 yards per minute there was 13.77 per cent size added and at 10 yards per minute there was 11.84 per cent size added.

This report by Mr. Horsley was substantiated by another man's report who told of a mill running tests from the beginning to the end of a slasher set and weighing each beam. At the beginning the slasher was running 17 yards per minute and at the end of the set in the creel the slasher was running 11 yards faster (28 yards per minute) and the last loom beam

During the discussion meeting at Auburn it was reported that a good way to keep a record on the life of shuttles is to date the inside of the shuttle. The same principle may be applied to other supply parts, such as dating lug straps, picker sticks (as this fellow is doing), pickers, check straps, etc. This gives a permanent record of life and can be used to advantage in comparing various types of supplies. We believe "Old-Timer" will approve of these methods and this picture.

Posed photo made by "Cotton" in textile school of Ala. Poly. Inst., Auburn.

weighed one pound heavier than the first, showing that more size is added to the yarn as the slasher speed increases.

A. W. Herren of Bemis Bro. Bag Co., Bemiston, Ala., announced that he had made tests and found a variation of from 2 to 12 per cent variation [not actual size] in size added, and explained that there were some things that cause this: "If tests are made early in the morning when the size and the cylinder are not as hot as they are later in the day, the variation will run high; later in the day the variation will be a few per cent. The condition of the blanket on the squeeze roll will cause variation. You may make a test today on a good blanket and tomorrow the blanket will be worn and there will be a larger variation. As the size stays in the box it thins down and you will not get as much on—you may think you get a better penetration but you don't get the same weight. Different speeds enter into it also. I often wonder just what to expect." He went on to say that a man in the slasher room has got to be a good chemist to tell about the reactions of the ingredients.

A question was injected asking if anyone carries over the size from night to the next morning, and a member said that he does this, but that in starting up the next morning, the first batch of size is made of a stronger concentration and is then mixed with the leftover batch of size, bringing the concentration to about what it should be.

Mr. Mullins said that the length of time a batch of size lasts has something to do with the variation, and that he does not like for a batch to last over two hours because it will get diluted.

Another question came back to yarn-wound squeeze rolls, when a member wanted to know if the size of the rolls affects the amount of size placed in the yarn. A report was made to the effect that a test had been run when the squeeze rolls (yarn-wound) were both large and small and there was no variation in amount of size added.

When to Add Compound

The next question asked when is the compound added to the size mix, when the water is hot or cold, and Mr. Horsley said that at his mill the starch is put in while the water is cold, the water is brought to a boil and then the compound is added. He believes that he gets a better distribution of size by this method. Cleveland Adams of Cowikee uses the foregoing method and also a method of putting starch and compound in while the water is cold, but he explained that the system of adding the compound depends entirely on the type of ingredient the mill is using, and that some products work better in cold water, some in warm water, and some work better in hot water.

Clyde Cobb of Nashua Mfg. Co., Cordova, reported that they add the compound when the water is warm but not at the boil, while H. Bard of the Jefferson (Ga.) Mills said that they put the starch in cold, bring to a boil and add the compound and get better results this way. Still another member said that if he puts the compound in when the water is at the boil it tends to crystallize the size.

Size Roll Blankets

In a discussion on the types of blankets used on the squeeze rolls on slashers, J. D. Whatley of Nashua said that they use a wool blanket on the front roll and a burlap blanket on the back roll, running 7s to 20s, and have some shedding. It was suggested from the floor that the burlap blanket might be causing the shedding. A representative from Mississippi reported using an all-wool blanket on the front and a cotton blanket on the back, but does not get good results, and he asked for methods of changing the blankets, saying that when he ran wool blankets on the back and front squeeze rolls he was able to break the blanket in on the back roll and transfer it to the front, but that this cannot be done now since he is using a cotton back roll blanket.

In answer to this a member said that he takes the old blanket off and winds the new blanket on, and then puts two yards from the old blanket on top of the new blanket and lets it condition for 24 hours by running on the front roll, and then removnig the two yards of the old blanket. Allen Jones of Muscogee Mfg. Co., Columbus, Ga., explained that he always puts a new blanket on the back roll and runs it for a few days and then transfers it to the front roll, and answering a question, he said that only the blanket is transferred and not the roll. He then asked if anyone takes the blankets off and washes them and puts them back on, to which Joe Hyde of Avondale Mills said that he formerly did this when he used wool blankets, but now has yarn-wound rolls.

One man asked what the mills would do if the slasher blankets lasted only two hours when running indigo-dyed warps, and a visitor said that he thought when this type of work was run it was customary to run a blanket made of cotton warp and wool filling, which protects the wool better, and the cotton is not affected so much by the caustic.

Stretch in Warp at Slasher

Discussing the amount of stretch in a warp for best running work, Mr. Horsley said that he thought the least amount of stretch the better, but that he could get the warp to break properly at the lease rods if there were less than 1½ per cent stretch. Mr. Adams also considered that the least stretch the better, and said that the slasher man feels the warp as it is running to determine if it is running right. His plant has about 1½ per cent stretch also. He prefers to keep the normal amount of moisture in the warps from the slasher, and told of having some trouble from running the warps too dry. Joe Hyde has 1¼ per cent stretch and likes to keep about 7 per cent moisture in the warp.

Mr. Mullins of Merrimack said that the minimum of stretch is the most desirable and that his plant has from

1¼ to 1½ per cent stretch and from 7 to 7½ per cent moisture, and that he finds that the elongation of the yarn determines the amount of breakage in the weave shed, and if you can save the elongation at the slasher there will be better running work in weaving.

Someone brought up the use of automatic moisture control devices, and upon a show of hands several present indicated that the slashers were so equipped; when asked how they like them, a member said that he "couldn't get along without it".

Warp Men or Fixers Only

Emmett Warren of Avondale Mills led the discussion on weaving, the first question on the list concerning the use of warp men to tie on warps or permitting the loom fixers to do this job. Joe Hyde was in favor of "letting the loom fixers fix and hiring men to tie on warps", and a representative from Samoset Cotton Mills agreed with him by saying "give the loom fixers all the time to fix looms". Allen Jones also said that this is their system at Muscogee.

Another man said that he had tried both ways and the results at his plant were better to have the warp men. The discussion leader added that it is possible to train loom fixers while the operatives are warp men.

Another member asked if by using warp men had anyone ever been placed in the position of having to double up on a section for lack of loom fixers, and an answer to the question was in the negative because this plant tries to keep men trained to fix looms.

Allen Jones then told of having a vocational training program at his mill so that he could train men for the positions, saying that such a program is very helpful to his organization. Mr. Warren also told of using the vocational training program for about four years at Avondale.

Mr. Willingham said that he uses warp men because loom fixers are scarce, and he too told of having about 95 boys in the vocational school and about 60 of the vocational trained men are now on sections. He also has some men in his weave shed that do nothing but learn to fix. Getting into the duties of the warp men, he said that they tie on the warps and set the harness as best they can, but that the loom fixer follows after them and determines that the harness are properly set, and if not he sets them right.

One member wanted to know how many looms a fixer could handle on Model E, 3-harness looms when warp men are employed, and someone suggested 90 looms to the section. One other mill man said that on 2-harness work the fixers have 84 looms and another considers 80 to 90 looms for 3-, 4- and 5-harness work. Mr. Hyde of Avondale said that his warp men tie on the warp and the loom fixer sets the harness, and he is followed the next day by the head loom fixer, who checks the loom fixer to see if the harness are properly set.

The other side of the question came from a representative of Bemis who said that he uses fixers only and no warp men, though he does have men to take care of the heavy breakdowns. He maintained that if there is a man to tie on the harness and they are set by the loom fixer, and then someone has to check back on him, then there is a loss in production and possibly the loom has made some seconds before the fixer can be checked on.

Sloughed-Off Filling

Answering the question of preventing sloughed-off filling, Mr. Hyde suggested that too much power is one of the causes, and that much of this could be prevented by winding the filling on the bobbin tight and by boxing the shuttle properly to keep it from knocking the filling off. He said that just enough power is needed on the loom to keep it running.

At this point the question was asked if any mills are having trouble on Monday morning with sloughed-off filling, caused from lack of humidity, and Mr. Hyde told him that his mills condition the filling on Sunday afternoons to prevent its being knocked off on Monday mornings, the filling being taken out of the batteries and conditioned, and the humidity is run over the week-end. Pepperell, it was reported, also took the filling out of the batteries over the week-end and conditioned it, but since the plant is running full time throughout the week, this is not done now.

According to Mr. Mullins, the filling at Merrimack is not conditioned and there is no trouble with the filling sloughing-off, but it is allowed to age on the quill for at least 12 hours. He explained the use of a cam with staggered crotches or points on the filling spinning frames that control the build of the small end of the quill, and that also gives a staggered stroke, which help to hold the filling on the bobbin. Another man reported that he had tried this for the filling on his Model G looms and that it did not help.

Mr. Hyde brought out that if the loom is made to pick on top center or a little before, it will help prevent the filling being knocked off, especially on rayon, and he told of using fur in the shuttle on this type of work. A representative from Muscogee reported using a bristle in the shuttle on Model E looms running 165-170 picks per minute and using the 8¾-inch quill. It was further brought out that the fur is of assistance on the longer quills, and Mr. Willingham told of using sheepskin in shuttles carrying the longer quills in order to prevent ballooning of the yarn on looms making 192 picks per minute. Mr. Hyde amplified his answer by saying that in some instances he uses two bristles on the end of the bobbin and 3 inches of fur on the feeler side of the shuttle and 6 inches of fur on the other side, running 9s to 15s rayon.

SURPRISE! No one was more surprised than the editor when he found Miss Jeanne Goodin of Nashville, Tenn., working in the designing class at Auburn's textile school, when the school was opened for inspection during the Alabama meeting. Miss Goodin, a junior at Auburn, is combining her course in applied art with textiles and majoring in textile design. When she finishes she will be able to design patterns, and not only that, she will know whether a mill can make a particular design and even tell them how many harness it will require. Pretty? Yes, sir! Personality? Yes, sir. Can she design? Yes, sir!

Preventing Reedy Cloth

The next question asked for loom settings to prevent reedy cloth on light sley warps. Reporting for Bemis, a man said to try to run a slack warp on the top shed, a high whip roll, high sand roll, and set the reed two or three inches from the fell of the cloth. To this came the question "in raising the whip roll, does that help without changing the stop motion?" The answer was to raise the stop motion so there will be no strain on the warp.

Another answer given was to set the sand roll, stop motion and whip roll high, and run a slack warp, pulling the harness down to the race plate. Still another man suggested setting the reed as close to the fell of the cloth as possible and yet get good running work, from 2½ to 2¾-inch, and if there is a vibrating whip roll used, put reed ⅜-inch from fell of cloth and set the cam under the cam follower at this position.

The next topic asked for systems of

(*Continued on page* 93)

At left, seated, is General Chairman W. T. Morton, with Garland Simmons leading the carding-spinning discussion at Spartanburg. At right, J. H. Burgess, standing, is leading the weaving discussion; General Chairman Morton and Miss Mary Robinson, stenographer.

South Carolina Division, S. T. A. Discusses Mill Problems

THE SOUTH CAROLINA Division of the Southern Textile Association held its spring meeting at the Drayton Mills Auditorium, Spartanburg, S. C., on Saturday morning, May 10. Questions relating to carding, spinning and weaving were discussed. The fact that many of the mills in the state are operating on Saturdays curtailed the attendance somewhat, but there was a representative group present, and an interesting discussion developed.

Election of officers for the coming year was held, and Wallace W. Splawn, of Kendall Mills plant at Pelzer, S. C., was named general chairman of the section succeeding W. T. Morton. G. P. DeBrule, superintendent of carding, Springs Cotton Mills, Chester, S. C., was elected chairman in charge of carding and spinning discussions; and Frank D. Lockman, Jr., of Monarch Mills, Lockhart, S. C., was named to head the weaving discussion group of the section.

Discussion on Carding-Spinning

General Chairman Morton presided at the Spartanburg meeting, and introduced G. G. Simmons, assistant superintendent, Drayton Mills, who ably led a brief discussion on carding and spinning topics.

Mr. Simmons read the first question, "What is your reaction to the use of plough-grinding on card cylinders and doffers? Does grooved emery fillet have any side-grinding effect on card clothing? What is the best number of emery fillet to use?"

No one present reported the use of plough-grinding. Frank D. Lockman, superintendent, Monarch Mill, Lockhart, S. C., answered the second portion of the question, saying that, "My overseer of carding has used some 2,000 feet of the grooved emery fillet, and he thinks it is a big improvement over the flat-face type; he thinks it gives some benefit by side-grinding the teeth of the clothing." Answering questions, he said the clothing has grooves, sort of like cotton furrows, which are about 1/32-inch deep and 1/8-inch wide. T. M. McNeill, superintendent of the same company's plants at Union, S. C., said, "This grooved emery fillet is what was used originally, then they moved away from it to the flat surface, and now they are going back to the grooved fillet which does give you a slightly ploughed point on the wire."

Answering the question about the number of fillet, Mr. Lockman said he thinks No. 24 grit does the best work on 100s wire on the cylinder and doffer and 110s on the flats. Mr. DeBrule prefers No. 30 for 110s wire on the cylinder and flats, as does R. T. Stutts, of Woodside Cotton Mills Co., Simpsonville, S. C., and another gentleman reporting.

Compressing the Card Sliver

"Have you increased the weight of the sliver in the can by inserting a tube in the coiler tube, by the use of compression springs on the calender roll, or by reversing the direction of the cans?" was the next question.

Frank D. Lockman was the first to report on this. He said he has put in a substantial installation of compression springs on the calender roll, and finds it increased the amount of sliver in the can by approximately 30 per cent. "We tried reversing the direction of the cans," he said, "but we did not get anywhere with it, but we have been running the compression springs for a year now on our entire job, 155 cards."

Chairman Simmons recalled a discussion on this subject at the section's meeting in Clemson College last year, where everyone agreed that it would put more sliver in the cans, but some felt that it helped the breaking strength, and others said it did not. Mr. Lockman said, "of course we had quite a bit of work to do besides just putting additional pressure on the calender rolls. Our numbers ran lighter with the same weight of card lap, and we were getting some stretched sliver with the compression springs on the roll, and we turned down the rolls in the coiler head, and we feel that we are now getting a stronger yarn and a better yarn."

"Then you are sold on the compression springs?" asked the chairman. "Yes, sir", replied Mr. Lockman.

A representative of the Joanna Cotton Mills, Goldville, S. C., said they are trying out some compression springs but that the breaking strength of the yarn is not as good as before; in fact, he said, "we are losing about 5 per cent in breaking strength. I imagine it is because the sliver doesn't

Report and snapshots by Robert W. Philip.

draft out as good."

"I think it would be a good idea to discuss this in connection with how much pressure you are putting on the grain sliver you are running," said Mr. Lockman. The man from Joanna said they increased the weight in the heads by 50 per cent, and that the doff, on 53-grain sliver, was increased from an hour and 10 minutes to an hour and 45 minutes. Mr. Lockman said he increased his weight 30 per cent, with a 65-grain sliver. He said, "you simply measure the amount of tension that you are getting now, and send the spring to the manufacturer and ask him to give you whatever increase you want."

Someone asked whether anyone had tried increasing the amount of stock in the cans by changing the diameter of the hole in the trumpet; Mr. Stutts said this was satisfactory for a short while but that eventually the hole would wear larger again.

B. H. Adkins, of Alice Mfg. Company, said he put compression springs on his cards about five months ago, and "so far as I have been able to tell, we have had no difference in the breaking strength. The only difference it made, to my surprise, was our card sliver got heavier, but it lightened up on the frame. We are proud of ours because we were short of drawing, and it helped us lots. We gained about 15 minutes on a 55-minute doff."

Mr. DeBrule reported 2½ years test on the compression springs, on more than 200 cards. He said they noticed no difference in the breaking strength; but that after trying out the springs, they then changed over and put the right size trumpets on the cards and was able to get the same or more sliver in the cans than with the springs. He said he gets 12 pounds of sliver in a 12-inch can; and that final tests showed he got 10 per cent more sliver with the proper size trumpets than with the springs, or a gross increase of about 35 per cent. He said that for a 53-grain sliver, he uses a 140/1000-inch trumpet. Mr. Lockman reported a 7/64-inch trumpet on 65-grain sliver.

The matter of ends down was brought up by the representative from Joanna, who said that they have far less ends down at the card, but about 50 per cent more down on the spinning. Mr. DeBrule said it was logical that, with the additional compression, there would be less ends coming down at the card, and that the increased breakage at the spinning was likewise logical.

Speaking about the compression springs, T. M. McNeill said, "We made a limited test on 24 cards and did get about 30 per cent more yardage in the cards, and it looked good, but we found that we could not make any saving in labor, and we did find that on our spinning, with cork rolls, we were not getting quite as even drafting, and we opened up the rolls but did not get enough improvement to justify continuing the springs. We could see no appreciable difference in the breaking weight or evenness of the yarn, but we did find by actual test that we were consuming about ⅛-hp more power per card, by the use of the springs, and in our plant that amounted to around $1,200 per year. I was brought up the old-fashioned way; I was taught that when your sliver gets too soft, the thing to do is to put in new trumpets on the card, and I still think that is the best practice."

This attentive group at the Spartanburg meeting includes **Joseph L. Delaney**, of Joanna Cotton Mills, Goldville, S. C., and a group of his men, and **John P. Klinck**, of Augusta, Ga.

"I think so, too," agreed Mr. DeBrule. "You can get it in the can with the springs, all right, but I just wonder how many men take a trumpet gauge and gauge the trumpets to see what size they have. If you have the right trumpet on there I do not believe you would get a pound more in the cans by putting on the springs."

"Is there a practicable way of reboring trumpet holes?" was the next question. The only comment was from Mr. DeBrule who said, "I have tried that, and it doesn't work."

Figures as to yard-to-yard variation and tolerance in picker laps were next requested from those using a machine for measuring variation in this way. Mr. Lockman reported his tolerance is 3/5 of an ounce either way from standard, which figures out about 2 per cent either way, and Mr. DeBrule said they also allow 2 per cent deviation either way, after cutting off about two yards at the end of the lap. "Sometimes," he said, "I try to get the boys to tear off more than that." Someone asked whether laps with twice that amount of tolerance would produce yarn with more relative percentage of deviation. Mr. DeBrule said, "I do not think we get any laps with twice that much variation, and if we did I believe the doublings would take care of such an occasional bad lap."

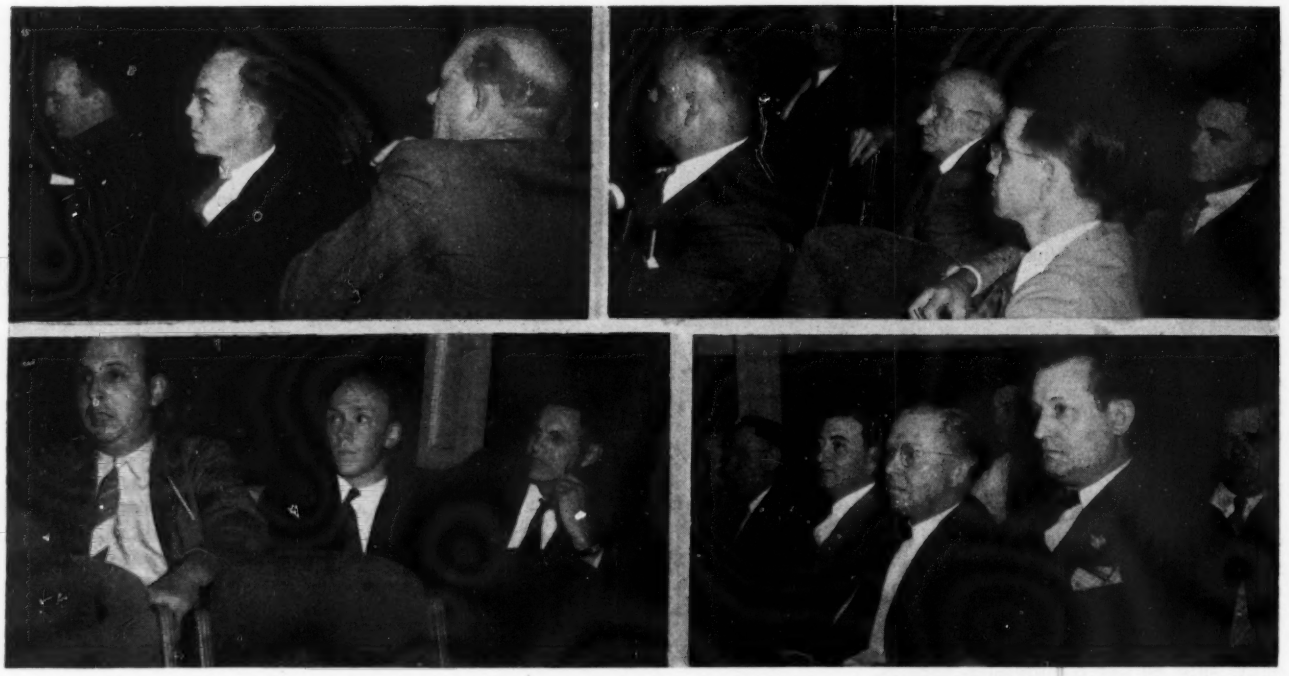
"What is the best method of disposing of pieces made at the back of long draft roving frames?" was next asked by Chairman Simmons, referring to short lengths of sliver left in the cans. Mr. DeBrule said he creels a frame with five cans, and takes one can of pieces back and runs it through his controlled draft drawing frames; one can of pieces with 15 cans of card sliver into the 16 ends for the controlled draft frames. Mr. McNeill runs his pieces back through the drawing frame. Mr. Stutts brought out that with positive knock-off on the drawing they have less pieces than otherwise; and that he runs his back in the pickers.

"We have the positive knock-off on the drawing," said Mr. Adkins, "and it takes almost the same yardage every time. We turn our cans of pieces on top of our full cans. If you have a number of extra cans, the fellow on the second shift doesn't care how he turns it for the next fellow, but if he has to run up his own work, he is going to be more careful, we feel."

The first question on spinning, "Is there a satisfactory dressing made to use on long draft cots or aprons?" brought no replies, and the chairman neyt asked, "What is the most practical percentage of relative humidity to run on long draft spinning?"

"Well, I came through the spinning this morning, and itw as 42, and it was running mighty good," reported J. L. Delaney, of Joanna. He said on 30s warp they try to run from 40 to 45 per cent. John S. Lockman, overseer of spinning, Monarch Mills, Lockhart, S. C., said, "It takes less humidity for long draft than for regular draft; we run from 40 to 50 per cent." T. M. McNeill concurred.

"Do you oil lifting rods; if so, how often?" was next asked. John S. Lockman said he uses pure lard oil and lubricates once every week of three shifts. Mr. Delaney reported a weekly oiling, with lard oil. W. E. Hammond, superintendent, Balfour (N. C.) Mills, said he used to use lard oil, but "the oil people have come out with a cheaper oil that is lighter and stainless and I use it, oiling once in 120 hours." Mr. Delaney brought out that with combination wind for Barber-Colman, the matter of sticking lifting rods is particularly serious. Answering a ques-



Upper left, **B. Ellis Royal**, secretary of the association; **Frank D. Lockman, Jr.**, of Monarch Mills, Lockhart, who was elected chairman of weaving for the South Carolina section, and his father, **Frank D. Lockman**, president of the association. The group at upper right includes **W. E. Hammond**, superintendent, Balfour (N. C.) Mills.

Lower left, **G. E. DeBrule**, superintendent of carding, Springs Cotton Mills, Chester, S. C., who was made chairman of carding-spinning of the section, with two of his men. Lower right, among others, **John T. Chalmers**, of Orr Cotton Mills, Anderson, and **J. C. Godfrey**, of Springs Cotton Mills, Fort Mill, S. C.

tion, Mr. Hammond admitted that he does have a stuck rod occasionally, and John S. Lockman said, "If you'll go back to pure lard oil, you won't."

Causes of Kinky Filling

Discussion of the causes of kinky filling, other than excessive twist in the yarn, was next requested by Mr. Simmons. John S. Lockman said, "You've got to go to the weave room to find causes of kinks, except excessive twist. You spinners all know that loom fixers make most of the kinky filling. I've been sitting here trying to figure out some way that would cause it in the spinning room, except excessive twist. The staple you use has a lot to do with it, of course, but that gets you ino twist, just as the kind of cotton you use. If you have the proper twist in the yarn, I do not see any way to cause kinks in the spinning room."

"What is the best way to eliminate hard ends in the spinning room " was the next question. John S. Lockman replied that, "that trouble comes entirely from the card room, and is caused by the way they put up the ends. A lot of fellows in the card room wouldn't use tobacco if it wasn't for having plenty to twist up their ends with."

"Well, what can you do in the spinning room to help?" was asked.

"If you make a groove in the cot in the spinning room, take it off," replied Mr. Lockman. "If you have a groove in a roller it is going to make one every time the traverse comes back to that place."

"A piecing does start it usually," agreed the chairman, "and I think it is generally admitted that most of the hard ends come from further back than the spinning room."

General Chairman W. T. Morton submitted for discussion a question on whether, on long draft spinning using aprons, a groove in the apron would be as detrimental to the work as if a roll was grooved. John S. Lockman said, "when you have run an apron long enough to press it down, you have got about the same thing, so if you do not extend the traverse you will make just as good work as on a new roll." Mr. DeBrule was of the opinion that a formula could be worked out on the basis that if you get twice the length of service out of an apron as out of a roller cot, that the aprons might be changed half as often as the cots. Mr. Delaney was of the opinion that there is a difference in the wear of an apron and a cot because the top roller has a cushion underneath it whereas the apron has no cushion.

Discussion on Weaving

This concluded the spinning discussion. After election of officers, the meeting was turned over to J. H. Burgess, overseer of weaving, Marion (N. C.) Mfg. Company, who conducted a brief discussion on weaving subjects. The first question asked for the life of shuttles on Model X looms. One man reported a use of 550 shuttles a month on 638 looms running two 45-hour shifts. W. E. Hammond, who has had extended experience on Model X looms, said his present figure, running better than 90 hours a week, on 80x80, 40s filling, 3,126 ends in the warp, at a loom speed of 193 p.p.m., is 11.92 months per shuttle. He said this life had been increased from around 7½ months, and that one contributing factor was a change in the shape of his binder. "Most binders," he said, "have a little swell on them and that throws the shuttle out of the box like a fish out of water. If you will eliminate that little swell from the binder, it will let the shuttle come out of there in a smooth, stream-lined way, and that is one way we were able to increase the life of our shuttles."

Chairman Burgess declared that the size of the filling run has some bearing on shuttle life, and when asked why, explained that the more transfers a shuttle gets, the less its life; he added that the Stafford thread cutter, according to his experience, weakens a shuttle and shortens its life.

"Which is the better picker to use on an X model loom: leather or rubber?" was next asked by the chairman. "I think the rubber picker is better for any loom than a leather picker," declared Frank D. Lockman. "I think you get more life and less weaving defects." Mr. Godfrey said, "I use both and I like the rubber better."

"Some loom fixers tell me you must fix your looms better in order to run the rubber picker," commented Mr.

Burgess. One man reported a preference for the rubber or composition picker on cotton goods and the leather on rayon, and Mr. Lockman asked why; the answer was that rayon hangs on anything that is the least bit rough, and that the composition picker has more of a tendency to become fuzzy.

In concluding this discussion it was emphasized that the matter of quality in either type of picker is highly important.

Causes of Broken Filling

"What will prevent broken filling on 45s filling on a 45-inch Model X loom?" was the final question asked by Chairman Burgess.

"On any loom, any speed, any model," replied Frank D. Lockman, "if the filling fork goes too far through the grate, we know that will cause the filling to knock out and we call that broken filling. If the filling fork does not come through the grate at the right angle, if the teeth are slanting, that will cause he filling to slide up on the fork. If the pickers are not parallel, and do not cause the shuttle to come out of the box properly, you will have the shuttle rising up or coming down and cause the filling to break. If the shuttle is not properly boxed that will cause the filling to slack and knock out." He also mentioned picker sticks not being properly aligned as another cause. Mr. Chalmers brought out that ballooning filling will cause a lot of breaking even after the loom has made a correct transfer. Mr. Lockman said, "if you pick the loom a little beyond front center you cannot hold that ballooning down."

A member asked for opinions as to the use of a top holder in conjunction with Stafford thread cutters, with an 8-inch bobbin. Mr. Lockman reported that on 1,620 looms, he does not use either the Stafford thread cutter or top holder. On the other hand, Mr. Chalmers likes the top holder with the thread cutter; Mr. Mace does not use the top holder on looms with Stafford thread cutters, but uses the top holder where he does not have the thread cutter.

Mr. Stutts asked whether those mills on spun rayon challis run a tape selvage. Smith Crow, general superintendent, Drayton Mills, said when they ran this fabric several years ago they used a plain selvage. Mr. Stutts said that with a plain selvage on his challis, he has difficulty with the filling breaking in the selvage. Mr. Lockman suggested that the timing of the harness might have something to do with this.

The last question was asked by Mr. Burgess, who wanted to know which is the best position for the ring rail when bearing down to doff filling. Mr. Baker said he likes to have his rail near the bottom, but John S. Lockman and W. T. Morton prefer having it at the top, just after making the change, as this puts the end on the top of the quill convenient for the battery hand. With bunch builders, they explained, there is no need of shaking down the traverse—the reason given by Mr. Baker for preferring the bottom position.

Difficulties with Western Cotton

Secretary B. Ellis Royal read a letter from the research department of the University of Texas regarding some discussion at the Piedmont division of the association which had been reported as criticizing Texas cotton as being especially difficult to process and dye. He asked whether anyone present had had such an experience. Mr. Stutts replied that it was entirely a matter of local territory rather than any particular state, that some of the best cotton available comes from Texas and that it is unfair to say that Texas cotton is bad just because of experience with inferior cotton from some particular locality in that state because any state is likely to have local areas that produce bad cotton. The meeting then adjourned.

Slashing-Weaving Discussed by Alabama Mill Men

(*Continued from page* 89)

inspection for loom fixers. Mr. Whorton said that a card is hung on each loom with the major points to be checked when the warp is out printed thereon, and the fixer does this, signs the card and gives it to the overseer, who in turn gives to the secondhand and he inspects the looms at random. The looms on a section are divided between the three shifts for inspection purposes. Another man has his looms checked over once a week.

Checking Set Harness

Along the same line, the next question asked for a method of keeping a check on loom fixers to see if they are setting and timing the harness correctly. One reporting mill has the secondhand do the checking, but said that if there was a head loom fixer he could do some of this work also. Another system reported was to have the supervisors check the looms on Saturday morning, looking for some particular trouble on each Saturday, and then the report is given to the loom fixer, who does the work.

Still another system is to have the secondhand check the shuttles on Saturday morning and when he discovers one that is in bad shape, he notes what is wrong with the loom and the loom fixer is required to fix it.

A question from the floor asked if there is a division of the section for heavy work when no overhaulers are employed, and several indicated that this is their system.

Again the subject turned to vocational schools, and it was explained that at Muscogee a vocational class tears down a loom, inspects it and puts it back again, using the same old parts because if new parts are installed it is a violation of the wage-and-hour law, but in order to show the students the difference in looms when properly maintained, a loom with good parts is torn down also.

Shuttle Life

The last question asked for shuttle life and as usual the age-old answer of "one hour to two years" was given, so the men began to discuss methods of keeping a record on the number of shuttles used. Some of the men indicated that they not only date a shuttle, but place the loom number in it also, and then keep a book record so that the shuttles used by any individual loom may be seen immediately. It was also brought out that a few looms will often break most of the shuttles. One mill keeps a record on the shuttles posted in the supply room where all may see it, and it is so arranged that faulty looms show up immediately.

Some of the causes given for broken shuttles were: broken harness straps, dent in reed, and loose selvage motion, and for the last named cause, it was suggested that a groove might be cut in the race plate for the wire to ride in.

Election of Officers

Frank K. Petrea was re-elected general chairman of the organization for the ensuing year, and H. B. Bergfeld of Bemis Bro. Bag. Co., Bemiston, Ala., was elected as vice-chairman upon termination of his term on the executive committee. Roscoe Roberts of Alabama Mills Company was elected to the executive committee to fill the unexpired term of Nelson N. Harte, who recently moved to another state, and D. Hampton Morris, III of Bama Cotton Mills, Enterprise, was elected for a 5-year term on the committee.

We All Must Help and Sacrifice

(*Continued from page* 68)

to make people do what they will not do willingly. It has got to be done, and if we can't get it done democratically, it has got to be done dictatorially, but it has got to be done.

This is one of the gravest problems that has faced the country in its history, and it is a problem that must be settled within the next few months. The problem is simply whether the American people are willing to work in their own defense, or whether they have got to bribe themselves to defend their country.

THE WORKING people of the United States have got to realize sooner or later that arming this country and protecting it means that they have got to work longer hours for less money instead of getting fat wages with bonuses for overtime. Defense can only be achieved by hard work and lots of it. We may soon see the time when everybody will be working practically for nothing; when industry will be contributing its plants and its brains and its technical skill without profit and without reward; and when labor will be working as in England and as in Germany, for nominal wages, and half of those paid back as taxes so that half of the people can work at defense while the other half supplies civilian demands—demands limited to little better than sustenance. The English have been reduced to such circumstances, and from all accounts the English working men are cheerfully doing their part.

When we are reduced to such circumstances we will probably all cheerfully do our part, but it is a terrible and pathetic thing to contemplate, that so many Americans fail to realize just what it takes to put into effect the defense measures that practically everybody approves.

Nearly everybody is for defense work, but nearly everybody wants somebody else to do it. This is a situation which cannot continue. Something has got to be done about it, and done quickly; and it is not being done and there is no indication that it is going to be done quickly.

Industry is being restrained from profiteering and very properly so. Organized labor is not being restrained from profiteering, but must be. Everybody in this country has got to contribute something to defense. Some will contribute money in the form of taxes, and some must contribute labor at reasonable wages that the rest of the country can afford to pay. Everybody must make some sacrifice and contribute something. If millions of working people refuse to contribute anything or to make any sacrifices, and decide that their country's peril is their opportunity to feather their nests, these people will sooner or later have to be forcibly prevented from carrying out their designs. If it takes enough force to make these recalcitrants participate in national defense, we can kiss democratic government goodbye and wrap the Bill of Rights up in moth balls until the war is over, or perhaps forever.

Let no one forget that in one desperately important respect this war is different from any war that has ever preceded it. In this one respect there have been other wars somewhat like this one, but not nearly enough like it to give us an idea of what could happen if Germany wins this war. This difference between the present war and other wars lies in the fact that from now on, wars are going to be fought almost entirely with equipment which can only be built in tremendous factories with vast industrial organizations, and with equipment which cannot be built on the sly.

Following all previous wars. the vanquished might reasonably expect in time to get strong enough to recover their independence. The way war is fought today, there is no reason why any vanquished European country could ever recover its independence. If Germany wins this war we may be quite sure that Germany will never permit any of her conquered peoples to operate factories for building tanks or military airplanes or bombs or guns, except under the strict supervision of the German overlords and for their direct benefit. Under present conditions of warfare, one division of 10,000 mechanized troops could quell an insurrection in a country as big as Poland or France, provided the people in those countries had been denied the means of defending themselves, and we may definitely assume that they will be denied the means of defense.

It was no idle boast when Hitler said that this war could decide the fate of Europe for a thousand years. Only amalgamation and decay could destroy such a set-up. A nation with the mechanized might to hold all of Europe in subjection and to prevent any of Europe from doing anything to compete with this mechanized might can run Europe as it pleases, until it gets too soft and too rotten to care what happens to it, and until internal dissension destroys it. It could not be destroyed from outside. Who could destroy it?

It is the job of the United States and the British Empire to prevent such a condition coming to pass in the world. If England falls, the United States could soon be a second or third rate power in the world. Probably a second rate power with Germany first, or a third rate power if Germany chips in with Japan and decides to let Japan run Asia, while both of them watch us to see that we don't get out of bounds.

The time to prevent such a state of affairs is right now, and the time is running short. The United States is in much the same position that England was in during 1938 and 1939. It was pretty obvious what was happening, but it was too hard to make any sacrifices to keep it from happening. It was so much easier to hope it wouldn't happen. Well it did; and it can happen to us.

ONLY A strong outburst of public opinion, backing up whatever Federal action may be necessary to get results, will enable us to accomplish what we have got to accomplish. In the textile industry there is leadership afforded by thousands of thoughtful, intelligent, and patriotic men; and it is sincerely to be hoped that most of these men realize the gravity of the present situation and are prepared to do something more than merely lament existing conditions. It is a solemn duty of every patriotic citizen to lose no opportunity to assist in the shaping of public opinion among his friends; his associates; his employees; or even among strangers, if he has an opportunity to intelligently discuss national problems.

CURRENT TEXTILE TOPICS

New era marks textile business

TEXTILES in general, of which cotton products amount to 80 per cent in this country on the basis of 1940 figures, have been brought into a new era by the National Defense Program. This is reflected not only in the extraordinary rate of demand for goods, but in relations with the government, in complicated employee conditions and in the ability of the manufacturers to cope with the situation to date.

After the big movement of cotton goods in March, came a digestive period. Through a quiet spell in April, considerably due to withdrawal of lines by important mills, it became evident that goods were flowing freely from mills to distributors to consumers in addition to the government requirements being filled. So the lag in trading was short-lived and the pile-up of backlogs by mills was resumed in May, with bullishness in raw cotton a new spur.

Talk of a 10,000,000-bale market for cotton in this country some time in the future has been belittled by the current abnormal conditions. A market bigger than that is now indicated for this year. A normal demand of such size is of course what the objective was and that remains for the future to realize. Meantime, the persistent demand this year to date has definitely established a new plane for the industry for the present.

Irreconcilable phases of the developments

At the time of writing, the market for raw cotton was in the midst of its skyrocketing tendency, under the influence of the Congressional action for 85 per cent parity. Prices had risen around three cents from the low for 1941 and reached the peak for about four years. This naturally set buyers of cotton goods covering rapidly, as the government move forecast a permanently new level of costs in the raw material.

In the midst of such a situation, the OPA was reported casting a weather eye on the advance that had already been made on cotton goods and prices were said to be out of line with the general level of wholesale values for the country. It was said that corrective steps might have to be taken by the government unless the market brought some change by itself. Yet perforce the market was affected bullishly rather than otherwise by the government's own move on cotton.

This was another of the evidently irreconcilable price situations that the government over recent months has tended to develop. The support of raw cotton is not alone. There is the action for a new minimum wage level. If cotton goods reach an unsound level, it will be as much due to high wages and raw cotton as to anything. The industry has always been highly competitive and through the current situation has had its own weather eye peeled for signs of excesses that would bring their own disastrous consequences.

"Ceiling" prices cited as an evil influence

As far back as the middle of April, the fear of government intervention against rising prices for cotton goods was besetting the market. It was hoped that the lull in trading at that time would also bring relief from this quarter, through a pause in the rise of prices. But at that time came the suggestion of a 37½-cent minimum wage and immediately the talk was that this itself would necessitate higher goods prices.

Then came the Congressional move for lifting sharply the cost of raw cotton by higher loans to the growers. This was the cue for an intensifying of the upward swing in values of cotton goods, in spite of suggestions that arbitrary limits might be set by Federal action if the situation did not change.

Commenting on such possible fixation, a leading commission house adduced that "ceiling" prices place all cloths, good or bad, on the same basis. In fact, he added that, "in the last war even seconds and shorts, which were not regulated, brought higher prices than first quality goods. In some instances mills were making more seconds and shorts than they were first quality goods, which is a wrong we hope can be avoided."

The above photograph shows the first bale of Fibro rayon staple fiber from America's newest and largest rayon plant, recently completed at Front Royal, Va., by American Viscose Corporation. In 1942 the plant is scheduled to attain full production at the annual rate of 50,000,000 pounds of filament yarn and staple fiber; approximately half to be Fibro rayon staple fiber, and the other half American Viscose's two high-tenacity yarns, "Tenasco" and "Rayflex". The plant occupies a 425-acre tract; has five turbine-generators capable of producing 24,000 k.w.; and a spinning room of 400,000 square feet.

Gerald S. Tompkins, plant manager, is seen in the picture with an employee.

Labor supply more widespread problem

Obviously the double demand, government and civilian trade, for cotton goods has lessened the competition among mills for business. It is now more a question of how to fill deliveries than of how to get orders. Allotment of output in relation to average purchases of previous years has become a practice of mills. Reduction of varieties to facilitate production is another new practice in many directions.

These tendencies are fostered considerably by the labor conditions apart from the wage matter. The problem of maintaining skilled help and normal standards of output has been increasing for the mills in proportion to the growing seriousness of the national program. Shortage of male workers for the mills is a vital consideration. The situation is not so bad as in some industries, because women can tend textile machines, but the shift entails time and at least temporary loss of efficiency.

In the South the diversion of workers to other lines bids fair not only to affect mills seriously, but to hamper the raising of cotton. Even owners of small farms find that they can earn far more on defense projects than in handling cotton crops. The possibility of sharp shrinkage in yield of cotton this year, especially in the event of unfavorable weather that would increase the need of cultivation, is already being given attention.

New England Mill Situation

MAY BUSINESS in cotton goods of New England manufacturers was notably active, especially in the first half, under the spur of broad civilian

consumption of finished merchandise. Following the spurt of printcloths and other constructions, the fine goods picked up a strong demand which at times was relatively more active than that for the coarser lines. Sharply rising prices accompanied the keen buying and soaring values for raw cotton.

Before the middle of the month, brisk buying on most lines of semi-staple carded fancies were reported sold well ahead, in a number of cases mill output being taken fully through September. Fine combed goods were moving in large quantities and practically all constructions offered had a part in the business. Direct defense business is hard to trace in this district, but at least the by-product is notably large.

After the heavy buying of the first half of May, consumers were inclined to balk somewhat at the rapid rise of prices for fine goods. It did not appear, however, that anything save upward changes were in sight as raw cotton made its persistent gains. Buyers looked around for resale lots at concessions, after sharp fractional gains in prices the first of the month, but even bids for substantial lots failed to interest mills.

Highest mill rate since early in '20s

For the cotton mills remaining in New England after the decline of the past 25 years or so, the current rate of activity is the best since the early '20s, or the time of the post-war boom. In Massachusetts, the March average hours per spindle in place were 304, according to the Bureau of the Census. In July, 1932, the average was 41. An NRA peak of 178 was made in June, 1933, but September of 1934 hit a new low of 40. The boom beginning in 1936 culminated with a peak average of 277 in March of 1937 and preceded a dip to 110 in December of that year.

Then came the war, which brought a peak of 295 by January, 1940. An interlude of unprecedented and disturbing conditions brought a sag to 205 by June, when the National Defense Program created a basis for lasting activity and a rising rate of mill operations. By October the Bay State had reached an average of 311 hours per spindle in place. The Commonwealth has well over half of the New England spindles.

This State runs lower than the others of New England and the average for the section was 321 in October. The rate was 317 in March for the section, but almost 100,000 more spindles were active than during October. The March cotton consumption was 102,193 bales, against 19,480 for October. The April consumption was 115,985, or somewhat above 12 per cent of the record 920,142 for the country. New England in March had shown a little under 12 per cent.

Finished goods activity as a factor

High activity in the civilian demand for finished cotton merchandise has played an important part in pushing the machinery of northern mills, since direct defense business does not accrue broadly to the fine goods producers. The spring movement through retail channels was said to have been far more liberal than most merchants anticipated. Some late reports on Easter trade indicated the largest volume for such a period since the late '20s.

Resumptions of dividends by well known cotton mills after long lapses reflected this exceptional state of affairs. The Quissett Mill of New Bedford paid $1 in May, the first dividend since February of 1937. Gosnold Mills of New Bedford made a first payment ($1.50) since August of 1937 on its $6 preferred and $1.25 on 5 per cent prior preferred $25 par stock which cleared up an accumulation.

Recent report had it that the Goodyear tire fabric plant in New Bedford would soon be re-opened for the manufacture of defense equipment, provided plans were fulfilled. The plant had been idle for more than a year and for a time was on the market for sale or lease. The exact nature of plans was not disclosed, but the plant was withdrawn from the market.

Pacific Mills has completed plans for consolidation of its finished activities at Lyman, S. C., which involves closing its print works at Lawrence, Mass. Bleaching, dyeing and printing operations at Lawrence on cotton and rayon goods will gradually taper off in the next few months. Only the worsted production will be continued in Lawrence.

Pepperell Manufacturing Company of Boston has announced that its wash goods department will be liquidated. The reason is that concentration on manufactured goods and other products finished by the company and sold under its trademark, it is felt, will enable the company to extend its manufacturing facilities when circumstances make it desirable to do so. The fall lines will be continued but no spring lines introduced.

"THE SITUATION" as Seen Across an Executive's Desk

May 16, 1941

THE TEXTILE INDUSTRY is in the midst of the biggest boom ever recorded for the industry as far as consumption of raw material and production of finished goods are concerned. It is not in an unprecedented profit making boom and this situation proves that in times of emergency the old law of supply and demand no longer holds—if the New Deal has its way.

You all know that since last fall from month to month consumption of raw cotton has exceeded the previous month. In April 920,142 bales were chewed up, almost 100,000 bales more than the month before and compared to 623,098 bales during April, 1940.

Reviewing Conditions

Just think of it! More than the mills have ever used in a similar period. At this rate the goal of 10,000,000 bales a year seems "in the bag", and at this rate the entire Government surplus could more than be wiped out in less than a year's time. Similarly, textile mill output over-reached any previous peak in the history of the business over a four-week period, as the entire industry is running every available minute to supply consumer demand and defense needs. The defense needs reflected most strongly in certain groups of the industry still govern much of the cause for this increased production. It is stated that probably only 10 per cent of the cotton-textile industry's output goes into Government purchases, but the vast defense program is putting plenty of money into many pockets and retail purchases are up considerably; National income is on an average of $78,000,000,000 for this year, the highest total since 1929. And when people have money to spend they would just as soon spend it on cotton goods as anything else, provided, of course, that they have satisfied their hearts' desire on new automobiles, radios, foodstuffs, etc. We read a lot in the papers about O.P.M. wanting more production, but the textile industry seems to have reached its peak at this time. If there are any reasons for any bottlenecks in production today it can be traced to machinery shortages.

It is understood that some companies selling textile machinery have stated they can deliver nothing until July, 1942. Everywhere mills are modernizing and preparing for what may

come. There is no indication of industry expansion, but every locality in the textile industrial area can cite examples of plant modernization.

As to Prices

And with all of this situation on demand and supply, what about prices? Costs are jumping up faster than ever in raw material and in labor, but the O.P.A.C.S. is adamant in holding that levels must be kept within present consumer range, that retail prices for civilian supply must not reflect inflationary tendencies, and that quality on civilian goods must be upheld. These two points were reiterated in more than one way in addresses given at a Consumer Goods Conference given in Washington on May 2 by Leon Henderson and by Miss Harriet Elliott, who head up the O.P.A.C.S. Too, Mr. Henderson has had numerous conferences with representatives from groups of the textile industry relative to market conditions. While up to now focus has been centered on the combed yarn section, print cloths and carded yarns are in for a drubbing from now on.

On the other hand, to get back to increased costs, we find cotton soaring and on May 14 cotton futures neared the 13½-cent level. Having climbed steadily since May 1, two weeks ago they reached the highest level since 1937 and with the news today that the President planned to sign the farm loan bill, evidences were that futures would climb even higher.

And what about the farm loan bill? To review: On May 14 Senate, voting 75 to 2, approved the legislation ordering the Government loans at 85 per cent of parity prices. The legislation covered rice and tobacco. Advices from Washington indicated today, May 16, that the President would leave cotton at 85 per cent parity provided other commodities were depressed. Senator Bankhead, papa of the bill, said that under this legislation the loans on cotton would be 13.49 cents a pound while some cotton authorities estimate that the average price with such a loan would be 16 cents for cotton. This bill was passed by the House and now simply awaits the President's signature.

Increased labor costs have been in effect for several months as mills not balanced to run three shifts increased their production and hours of operation by paying time and a half wages for all work over 40 hours. Checking up at Augusta with a number of representatives from various sections of the industry we were not surprised to find this a wide-spread custom. On top of this factor which so drastically reduced certain individual mills' manufacturing margins, the entire textile industry will soon be on a 37½-cent minimum wage.

• A new all-weather utility jacket by Duxbak specially designed for outdoor men. Its smooth inside surface slips on and off easily over other clothing and causes no binding over the shoulders. It is made from Skinner's tackle twill, a Crown Tested rayon and cotton material used in football pants and uniforms for parachute troops. It is Cravanetted for water repellency. Blend of 50 per cent long staple cotton and 50 per cent Tenasco rayon. Courtesy, American Viscose Corp.

Hearings on this were held this week in Washington and no opposition was raised on the figure. For the first time, labor and industry agreed that the figure set was a fair one. The only fight centered on the wage-hour administration's proposals to regulate wage deductions for use of company-owned facilities. The deductions which they proposed to regulate included cash advances, rent on company-owned houses, electric power, coal, wood, hospitalization, company store accounts, taxes, and various deductions. The mills represented by The Cotton-Textile Institute and counsel firmly held that these services were rendered their employees at a considerable amount of troublesome bookkeeping for the mills and yet if these deductions were not allowed the employees would suffer and not gain because of the change.

For instance, we are all familiar with so many cases where proper doctor's care and decent hospitalization for mill working families could not be obtained unless the mill stood this expense and deducted a small weekly payment from the pay-envelope of the man or the woman who has benefited or whose family has benefited from this arrangement. We have never heard a complaint from an employee because of this, but only gratitude that a tremendous expense which could not have been met by them could be worked out over a period of time. If the mill had not cared to advance the money the employee in such a case would have had to go to a loan shark and pay exorbitant and accumulative interest charges for the privilege of using someone else's money in a personal emergency period.

How many clerks in stores or white collar workers would be indeed grateful for an opportunity to buy coal at wholesale cost plus a small handling charge instead of paying the high retail rates? Many employees have this privilege because they buy it from the mill and the mill actually makes nothing out of the deal. A considerable number of mill employees are allowed to use electric current at industrial rates, a portion of which is alloted to them in most southern villages without charge, and through saving the difference in the industrial rate and the consumer rate they are able to buy refrigerators, electric ranges, electric washing machines, and other equipment which make life less of a drudge to them.

Mills Join N. C. C.

The National Cotton Council, which has done such a bang up job in promoting cotton, has closed the final gap in the ranks by bringing in southern cotton manufacturers as a sixth section and an integral part of the National Cotton Council of America. Other groups making up the Council are the growers, the shippers, the warehousemen, the ginners, and cotton-seed crushers. The board of directors of the Council which issued the invitation to the cotton manufacturers in January, which was accepted in the Augusta Convention of the American Cotton Manufacturers Association, naturally approved the plan without a dissenting vote which would bring the manufacturers into active Council membership.

For the first time in the history of the cotton industry every interest which touches cotton or cotton seed in the raw state is solidly behind a nation wide program to sell the products of the crop upon which America's economic equilibrium for prosperity depends. To those who have been watching the development of the National Cotton Council in its short three year existence, this is a wonderful accomplishment to merge the interests and the goal of so many groups who deal with the same commodity. The Council itself deserves commendation in more than one way for its splendid coverage of magazines and newspapers and other advertising mediums in their promotion work. They have vision, foresightedness, and plenty of new ideas and elbow grease with which to apply them. Those four things spell success in any business language.

TIMELY NEWS ITEMS with a TEXTILE SLANT

M. J. Warnock has been appointed director of advertising and promotion of the Armstrong Cork Company, Lancaster, Pa., and E. Cameron Hawley has been appointed assistant director. Mr. Warnock joined the company in 1926 and more recently was assistant general sales manager; he succeeds John P. Young, resigned. Mr. Hawley joined the organization in 1927.

American Viscose Corporation has established a novel display at its Lewiston, Pa., plant, and each week the exhibit will feature a line of Crown Tested rayon merchandise sold at one of the Lewistown stores. The exhibit will keep employees posted on the wide variety of textile products made from the yarns that they themselves produce.

Robert A. Baker, Greensboro, N. C., has been appointed southern sales representative for the Penn Worsted Company, Philadelphia, Pa., manufacturers of silk yarns and fancy twists. Mr. Baker, who formerly represented H. Brinton Company, will cover the entire South and will continue to make his headquarters in Greensboro.

Ashworth Bros., Inc., Worcester, Mass., are building a new single story, slow burning type, repair shop in Atlanta, Ga., on the corner of Forest Ave. and Fulton Drive. The shop will be used for re-wiring lickers-in, re-clothing top flats and for stocking various card clothing items for the convenience of the trade. Future expansion is provided for by available land and by the construction of the building, which will permit the addition of two more stories.

George A. Martin, chairman of the board of Sherwin-Williams Company, Cleveland, Ohio, has been awarded the annual Award for Public Service by the Cleveland (Ohio) Chamber of Commerce. The award was made in Mr. Martin's absence, while he was on a tour of the company's plants in South America.

U. S. Gutta Percha Paint Co. has augmented its southern sales force by appointing C. L. Park, with headquarters in Atlanta, Ga., to cover Alabama, Georgia, Louisiana and Mississippi, and by transferring T. C. Roggenkamp from Indiana to the Charlotte (N. C.) zone. L. K. Palmer is taking on, in addition to his present territory, the state of South Carolina and part of North Carolina. He will handle this additional territory in cooperation with his brother, John S. Palmer, who will continue to be, as he has been for many years, in charge of the company's southern office with headquarters in Greenville, S. C.

Nelson A. Fisher, formerly overseer of dyeing at the Rock River Woolen Mills, Janesville, Wis., has been named technical and sales representative of the Burkart-Schier Chemical Company, Chattanooga, Tenn. Mr. Fisher will serve the company in the mid-west area.

Clarence R. Howe has become actively associated with the U. S. Bobbin & Shuttle Company, Lawrence, Mass., in the capacity of vice-president, having for some time been a vice-president and director in an inactive capacity. He recently resigned his position with the T. C. Entwistle Company of Lowell, Mass.

E. V. Wilson has been made southern manager of Watson-Williams Manufacturing Company. He is establishing an office in the Woodside Building, Greenville, S. C.

P. J. Bryant, sales engineer for American Blower Corporation at Washington, D. C., has been transferred to the Charlotte, N. C., office and will cover the territory of H. S. Barnes who has been called into the army.

Charlie C. Switzer, formerly of Goodyear Rubber Company, Charlotte, N. C., has joined the sales force of the Keever Starch Company,

Mr. Switzer

Columbus, Ohio, as traveling representative. He will cover a part of the states of South Carolina and Georgia, and will make his headquarters at the Greenville, S. C., office of the company.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., announce that Lee H. Hill, who was made vice-president on May 9, will head up a newly-created industrial relations department, in a far reaching plan to promote cordial relationships between employees and management. He joined the company in 1931 with the absorption of the American Brown Boveri Company, with which he was transformer division manager.

Parks-Cramer Company, Fitchburg, Mass., has purchased the building occupied by the former Shirreffs Worsted plant at Fitchburg, and the executive offices of the northern plant at 970 Main Street will be transferred to the building. Since few alterations will be necessary, it is planned to start the transfer of office, sales, engineering, storage and manufacturing departments at once. The new plant will permit a reorganization of northern factory operations with ample room for expansion.

Recently-acquired plant of Parks-Cramer Company

COMMENT on the COTTON MARKET

New Orleans, May 17, 1941.

THE COTTON MARKET was galvanized into activity during the past month by the steadily rising demand for contracts and spots from spinners and merchants who wanted to assure themselves of an adequate supply of the actual cotton for next season. This demand was created by the increasing certainty of a high loan on the next crop and by efforts of the AAA to induce farmers to reduce their plantings to a minimum. As the demand for contracts grew prices rose steadily to new high records from day to day and from week to week. Outside traders soon came into the market in increasing numbers and the market developed into a big broad trading affair with the largest volume of business since the early days of 1937. Tenders on May contracts were small and were absorbed by spot firms who needed the cotton. These tenders did not affect the market.

At first the goal of the members of the House was for a loan of 75 per cent of parity. Many of the leaders of the Senate wanted a loan 100 per cent of parity. The two houses finally compromised on a loan of 85 per cent of parity for cotton, wheat, corn, tobacco and rice.

After the compromise rate of 85 per cent of parity (16 cents) passed both houses the price rose to 13.34 cents for October contracts in New Orleans and to 13.27 at New York. The average price for Middling 15/16-inch rose to 12.70. These prices represent a gain of about $10.00 a bale since the middle of April and nearly $19.00 a bale since the middle of February when the advance started. These quotations are also the highest recorded since early in 1937. After these prices were reached the market reacted moderately owing to fears that the President might veto the loan rate because of opposition of the Department of Agriculture to a loan above 75 per cent of parity and necessity for increasing the borrowing power of the Commodity Credit Corporation $200,000,000 over and above the $1,000,000,000 requested by the administration. Threats of high government officials to close the commodity exchanges unless speculation is curbed and a statement from the President that the administration is discussing the advisability of fixing a ceiling on prices tended to induce profit taking by satisfied longs and added somewhat to the volume of liquidation which the market was forced to absorb. The President, however, says he will approve the 85 per cent loan provided the increased parity payments authorized by the Senate are eliminated. This statement steadied the market.

The Agricultural Appropriation Bill, as passed by the House, provided a fund of $212,000,000 for parity payments on five basic crops for next year. The Senate increased this fund to $450,000,000 of which $138,000,000 was to be used to increase parity payments on the growing crops. House leaders have expressed a willingness to eliminate this increase. It is believed Senate leaders will also agree to eliminate it in order to get the high loan which they appear to desire more than the increased parity fund.

The Act increasing the loan rate makes a loan of 85 per cent of parity (16 cents) the minimum loan rate. Section 302 of the AAA Act of 1938 requires the loan on cotton to be made on the basis of Middling 7/8-inch gross weight. This law apparently provides for a loan of 13.60 on Middling 7/8-inch gross weight at the farthest point in the belt where cotton is raised. On this basis, and allowing for freight and staple differentials, the loan should be 14.60 at the Gulf ports for Middling 15/16-inch.

Opinions, however, differ widely as to the loan rates which will be fixed by the Commodity Credit Corporation. Current opinions range from a rate of 14.10 to 15 cents a pound for Middling 15/16-inch at the Gulf ports. One report from Washington says that officials of the Commodity Credit Corporation take the view that the act making the minimum loan 85 per cent of parity this season supercedes the AAA Act of 1938 and that while a minimum loan of 13.60 must be made on Middling 7/8-inch gross weight, the average loan on Middling 15/16-gross weight with an allowance of 25 points for staple differences will be 13.85. To this figure, he says, should be added 35 points for loans in mill districts making the loan in that area 14.20. However, it is explained that the law requires the loans to be based on the parity price of August 1st which is likely to be 16.25 at that time, owing to the general rise in prices which farmers pay for other commodities. Such a parity, this authority says, would make the loan 13.81 minimum for Middling 7/8-inch gross weight and 13.96 minimum for Middling 15/16-inch gross weight.

Existing laws provide a parity payment of 1.38 cents a pound for cotton and a soil conservation payment of 1.37. These payments were authorized by the 1940 budget. They are not likely to be changed.

The Census Bureau reports 920,141 bales of cotton were consumed in domestic mills during April and 6,995,000 in nine months. These figures indicate consumption of 10,000,000 bales for the season. The Weather Bureau reported the weather of the first half of May unfavorable for the crop due to excessive rains in the West and center and lack of rain in large areas of the East where cool nights were also reported detrimental. Weevil emergence reported above the average in Texas with weevil already working in the fields of Central Texas. A new cotton pest is reported in some counties of Georgia Sales of dry goods recently have been moderate but prices are higher and many mills are sold through September. Spots and loan certificates are in active demand with 1940 certificates selling from $10.00 to $15.00 a bale in central sections and the 1938 equities bringing from $2.50 to $8.00 a bale. Acreage predictions of the private reporting bureaus range from 24,291,000 to 25,353,000 with an average of 24,956,000. The planted acreage last year was 25,073,000 of which 24,078,000 were harvested.

CENSUS REPORT OF COTTON CONSUMED AND STOCKS

	Bales	
	This Season	Last Season
Consumption of lint in the United States, April	920,142	623,098
Consumption of lint in the United States, 9 months	6,995,238	5,953,999
Consumption of lint in Cotton Growing States, April	775,956	532,588
Consumption of lint in Cotton Growing States, 9 months	5,959,811	5,068,081
Consumption of lint in New England States, April	115,985	72,506
Consumption of lint in New England States, 9 months	830,113	715,499
Consumption of lint in All Other States, April	28,201	18,004
Consumption of lint in All Other States, 9 months	205,314	170,419
Mill stocks in United States, March 31	1,555,064	1,317,056
Mill stocks in United States, April 30	1,933,507	1,470,527
Mill stocks in Cotton Growing States, April 30	1,556,431	1,199,884
Mill stocks in New England States, April 30	320,131	216,833
Mill stocks in All Other States, April 30	56,945	53,810
Warehouse Stocks in United States, March 31	13,243,573	11,409,520
Warehouse Stocks in United States, April 30	12,374,839	10,732,290
Warehouse Stocks in Cotton Growing States, April 30	12,000,443	10,663,006
Warehouse Stocks in New England States, April 30	358,442	62,170
Warehouse Stocks in All Other States, April 30	15,954	7,114
Active cotton spindles during April:		
In the United States	22,787,396	22,288,832
In the Cotton Growing States	17,298,344	17,018,746
In the New England States	4,973,192	4,670,750
In All Other States	515,900	599,326

AMERICAN COTTON CONSOLIDATED MOVEMENT
(Figures of the New Orleans Cotton Exchange)

August 1 to May 15— Bales—	This Season	Last Season
Receipts at United States ports	3,327,596	7,346,505
Exports to Great Britain	361,936	1,900,543
Exports to France	.....	777,710
Exports to Continent	386,748	1,950,440
Exports to Central and South America	24,962	53,469
Exports to Orient	158,909	1,315,600
Total exports	932,555	5,997,762
Total stock in New Orleans, May 15	518,535	661,358
Total stock in all U. S. ports, May 15	3,381,250	2,643,725
Total exports for April	74,009	344,609
Total exports 9 months to May	904,001	5,694,962

Hygrade Sylvania Corporation, Salem, Mass., has announced that a new fluorescent lamp plant will be built at Danvers, Mass., which will be ready for occupancy in the fall. The building will cost approximately half million dollars.

What the Southern Mills are Doing

Marshall Field & Company has sold approximately 1,500 of the village homes at Leaksville, Spray, Draper, N. C., and Fieldale, Va., to a group of individuals, none of whom are employed by the company. This sale was made with the understanding that the purchasing group will immediately give each employee an opportunity to buy the company house in which he is living, on a basis that is very favorable to the occupant. An agent has opened offices in each of the four villages to handle the sale of the houses to employees.

The property of Selma Manufacturing Company in the West End section of Montgomery, Ala., has been purchased by a newly-formed partnership known as Montgomery Cotton Mills. The partnership is composed of D. H. Morris, Jr., and Joel E. Johnson of Geneva, Ala., D. H. Morris, III, of Enterprise, Ala., and Charles E. Estes and Mabel B. Estes of Montgomery. It is understood that the mill will undergo some improvements.

Dwight Manufacturing Company, Alabama City, Ala., has let a contract to Daniel Construction Company, Anderson, S. C., for an addition to the mill, consisting of buildings and equipment, said to exceed three million dollars in cost. It is understood that there will be 20,000 new spindles and the necessary preparatory and weaving equipment. J. E. Sirrine & Company, Greenville, are engineers.

Property of Turner Manufacturing Company, Turnersville, N. C., has been bought by C. V. Henkel and Mrs. Henkel, Statesville, N. C., and Robert R. Spilman, Knoxville, Tenn. The cotton mill will be operated as the Rocky Creek Mills, with Mr. Henkel as manager. Mr. Spilman is president of Appalachian Mill Co., Knoxville. It is reported that the mill is more than 100 years old.

Charles A. Waller, vice-president of Sears, Roebuck Co., Chicago, wrote the chamber of commerce of Huntsville, Ala., that his company is interested in obtaining a site for a weaving mill to be operated by the company that will sell its entire output to Sears. The building must contain not less than 30,000 square feet of floor space.

Avondale Mills of Alabama is interested in helping its employees own their own homes, located on small farms. Thus far 275 loans for homebuilders have been made, and 165 of these have been fully repaid, with the other 110 being in process of repayment.

Pacific Mills will consolidate its finishing activities at its plant at Lyman, S. C. The print works at Lawrence, Mass., will ultimately be closed down after the necessary transfers of machinery can be effected. A new addition was started sometime ago at the Lyman plant.

Judson Mills, Greenville, S. C., has leased from Whitin Machine Works, seven Acme double-deck twisters. The mill has the option of purchasing after five years, when the lease is terminated.

It is understood that the Faytex Mills, Fayetteville, N. C., will be reopened soon under the name of Lakedale Mills. R. L. Huffines, Jr., formerly manager of Faytex, will also be manager of this mill.

A charter to manufacture all kinds of fabrics has been granted Ann Manufacturing Company, Granite Quarry, N. C. Authorized capital stock is $10,000.

A contract has been awarded by L. B. Jackson & Co., Asheville, N. C., for the construction of a linen plant at Charleston, S. C.

Pepperton Cotton Mills, Jackson, Ga., have completed plans for an addition to the plant, with J. E. Sirrine & Co., as engineers.

Fitzgerald (Ga.) Cotton Mills are erecting a building to house the machine shop. When the shop is completed, looms will be installed in the vacated space.

Hawkinsville (Ga.) Cotton Mills has recently installed a bleaching department.

New Textile Publications

Whitin Machine Works, Whitinsville, Mass. "All Aid to Mills Short of Nothing!" a publication describing the Whitin-Schweiter automatic filling winders.

Smooth-On Manufacturing Company, 570 Communipaw Ave., Jersey City, N. J. Booklet showing how to make low-cost and lasting repairs to equipment and pipe lines without dismantling or use of heat. Contains 40 pages with 170 diagrams.

General Electric Company, Schenectady, N. Y. GEA-2176 on selsysn (self-synchronous apparatus) for remote signaling, control and indication. GEA-3539 on heating cable. GEA-3571 on plugging control. GES-2456, a story of control for important motors. GES-2677 on how to start and protect a synchronous motor for best results. Order by number.

Better Lighting Company, 35 E. Wacker Drive, Chicago, Ill. Several pieces of literature descriptive of fluorescent fixtures for various applications.

Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Bulletin B-6146, a new 40-page booklet describing a pump for a pumping service requiring single-stage double-suction centrifugal pump. Carries friction tables, head-capacity tables and other pump engineering data.

The Bristol Company, Waterbury, Conn. 16-page bulletin on strip-chart recorders. Request Bulletin 570.

Graton & Knight, Worcester, Mass. Booklet telling why to use leather belting for pivoted motor base drives.

Tide Water Associated Oil Company, 17 Battery Place, New York City. "Textile Mill Lubrication", 20-page illustrated booklet on modern lubrication practice in textile mills as applied to both plain and anti-friction bearings.

Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. "Dyes Made in America", a history of the American dye industry and its development. Well illustrated with color photos of industrial production and natural color photographs showing application of American-made dyes. Also, technical bulletin No. 575 on Calcoloid Blue BLD Double Powder, a new vat dye.

The Foxboro Company, Foxboro, Mass. Two pieces of literature descriptive of the pneumatic system of loading for the textile industry and temperature control for bleach kiers.

Continental Diamond Fibre Company, Newark, Del. Folder GF-9 covering five important basic types of non-metallic materials that may be used in various applications in the textile industry.

Alabama Cotton Manufacturers Association, Montgomery, Ala. "Spots in Cotton Fabrics", a micro-chemical analysis and research laboratory report by Dr. Otto Morningstar dealing with spots caused from cotton ties painted with asphalt solution.

Nash Engineering Company, South Norwalk, Conn. Bulletin 336 descriptive of the glass pump, a centrifugal pump of pyrex brand heat, shock, and acid resistant glass.

Brown Instrument Company, Wayne and Roberts Avenues, Philadelphia, Pa. Catalog No. 77-2 on non-indicating air operated controllers of the air operated remote bulb type. Also, No. 77-1 on a line of motor power units and motorized valves.

Jackmeyer Label Corporation, 62 West 14th St., New York City. Literature giving vital facts about vat dye labels.

Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa. Descriptive data 18-335 on ignitron spot welding timers to control welding of aluminum, heat-treated alloys, etc. Catalog section 43-414 on improved ac. and dc. ammeters and voltmeters for general use. Folder F-8624 descriptive of range drive motors and control applicable to cloth-finishing ranges. Order from Dept. 7-N-20.

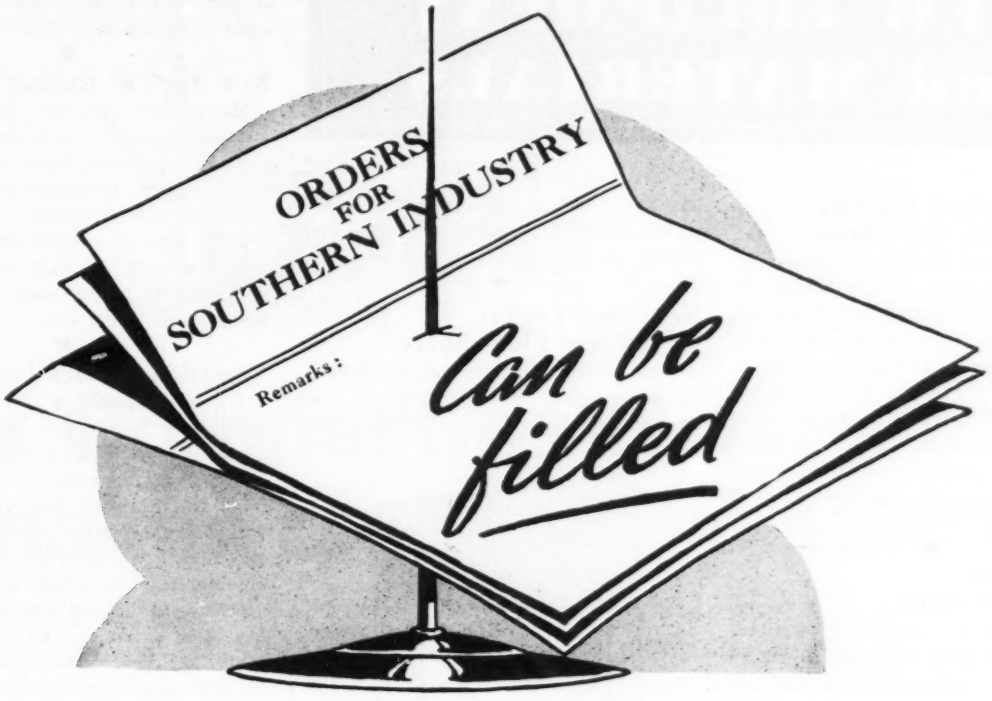
American Type Founders, Inc., Elizabeth, N. J. "Why Employment Relations?" by Thomas Roy Jones, a transcript of the opening address before the N. A. M. Institute on Employment Relations, held at Edgewater, Miss.

Interchemical Corporation, 75 Varick St., New York City. "More Than Meets the Eye", a new brochure describing the latest developments in chemical coatings, of interest of advertisers, packagers, textile mills, etc.

Jenkins Bros., 80 White St., New York City. "Where to Use Valves, Drains and By-Passes". A booklet containing helpful information on the construction and selection of all types of valves, as well as the proper application of drains and by-passes.

Department of Commerce, Bureau of the Census, Washington, D. C. "Growth of the Hosiery Industry", statistics compiled showing growth and production of the hosiery industry, competition of fibers, etc.

Hart Products Corporation, 1440 Broadway, New York City. Literature describing Supratol VF, a dyeing oil and protective agent for wool.



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NEW EQUIPMENT and MATERIALS

New Colloidized Vat Dye for Cotton and Rayon

Calco Chemical Division of American Cyanamid Company, Bound Brook, N. J., has announced a new colloidized vat dye for cotton and rayon materials, Calcoloid Blue BLD Double Powder, said to be outstanding for its rapid and complete dispersion of the dye particle in the dyebath. It offers excellent fastness properties, withstanding light, washing and laundering with chlorine.

◆

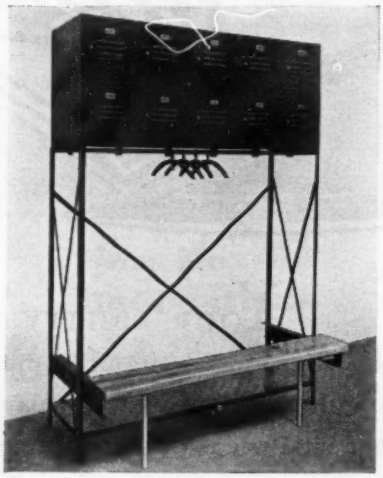
Foster Nylon Sizing Machine

Foster Machine Company, Westfield, Mass., has designed the new Model 86 nylon sizing machine so that it can be converted into a cone or tube winder if desired; in other respects this model is similar to the Model 76 nylon sizing machine. Model 86 is built in units of 6 spindles, and as many as 42 spindles can be driven from one motor. It has ball-bearings throughout, with chromium plated tension fingers, and stainless steels in trough and cover and guide parts. A feature of the Model 86 is the improved bobbin chuck with expander handle, facilitating the removal of packages from the spindles. It has combination rotary and traversing sizing roll unit, permitting changes in speed of the roll at the same time traversing the roll to prevent yarn cutting the surface. Standard equipment includes the level winding attachment to produce tapered ends. It may be equipped with dual package level winding attachment which allows two ends to be sized and wound on each spindle.

◆

New Steel Locker Reduces Floor Space

Penn Metal Corporation of Penna., 36 Oregon Ave., Philadelphia, Pa., has announced new steel constructed lock-



ers, designated as the Penn-Kelsey Unit, which provide facilities for 10 persons in half the floor space ordinarily required. Each portable unit has an open coat space 56½-inches high with coat hangers permanently attached to rod. A perforated metal shoe rack is at bottom, and it has 10 private locked compartments, each of which is 12-inches wide, 18-inches deep and 12½-inches high. Doors are flanged on all sides for strength, with three ventilating louvres per door. Overall size of each unit is 60-inches wide, 18-inches deep and 87-inches high.

◆

New Type of Rubber Hose

Manhattan Rubber Manufacturing Division, Passaic, N. J., has introduced Condor homo-flex hose, said to combine balance, homegeneity, and flexibility to a high degree. It is light in weight, easy to handle and has inseparable covers. It may be used for a wide variety of purposes, including air hose, water hose, etc.

◆

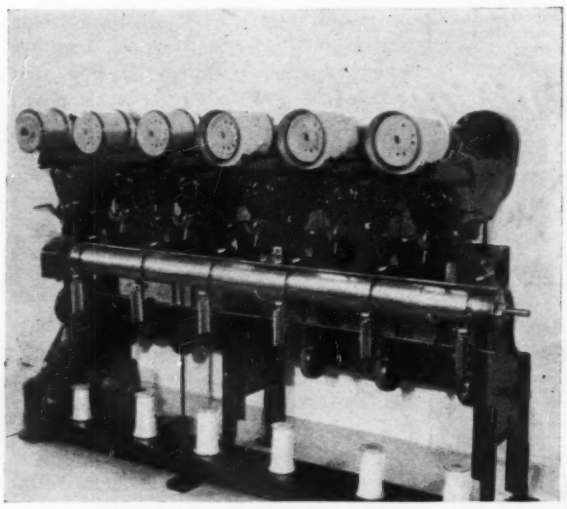
Vibration Service Lamps

Wabash Appliance Corporation, 335 Carroll St., Brooklyn, N. Y., has designed a new type of vibration service lamp, the construction of which protects the filament from vibration and jar, which tends to shorten the life of the lamp. It is for industrial and commercial use where high frequency vibration set up by motors and machinery is in evidence. In appearance the lamp has the same overall length as an ordinary bulb, but it is made in a larger oversize bulb of wider diameter.

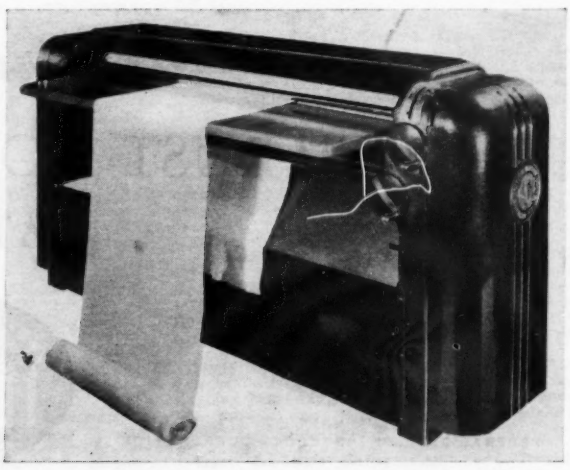
◆

Brushing Machine for Hose or Cloth

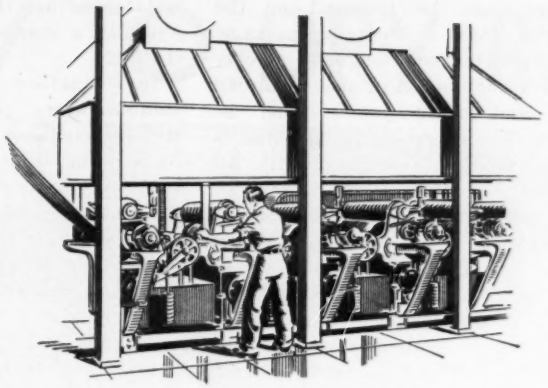
Ainslie Knitting Machine Company, Inc., 740 Grant St., Brooklyn, N. Y., has announced a new brushing machine for brushing, napping, pile-raising, sueding, etc. It handles all kinds and sizes of goods, working equally as well on rayons, wools, cottons, worsteds, and mixtures. The entire operation is controlled automatically by a starting lever and two small wheels, and is stopped instantly by touch. Cloth up to 60-inch width may be brushed. Other features are self-contained dust exhauster, automatic reversing of brush for sharpening, steel brush roller, safety bar in front of feed rolls, and heavy duty ball and oilless bearings.



Foster's new nylon sizing machine



Brushing machine for hose or cloth by Ainslie



New Compartment Washer makes cloth more saleable

"We are convinced that our new Butterworth Compartment Washer is exactly what we needed to turn out more saleable merchandise.

"We are running different weights of cloth. But, there is no scrimping in of the fabric because our Compartment Washer does not build up tension between the nips. Thus, we have corrected a situation that formerly gave us a high percentage of seconds.

"We can control speeds and tension in each compartment because there is an individual motor drive for each set of squeeze rolls. The machine is also equipped with the new Butterworth Micro-Set Housing.

"Our new Washer has five compartments, with provisions made for adding extra compartments to be used in series."

* * *

This is a typical example of the results achieved with modern equipment in the wet end of textile finishing.

Under present conditions, a new machine pays for itself two or three times as fast as it does under ordinary conditions.

When textile production returns to normal, the modern mill has lower operating costs, lower prices and a wider margin of profit.

For more than 120 years, our entire time and effort have been devoted to promoting efficiency in bleaching, boiling-out, drying, calendering and dyeing.

Butterworth Engineers are ready to make a careful study of your finishing plant, supervise the installation of modern Butterworth Machines and stay on the job until the new equipment is giving completely satisfactory results.

Let us tell you whether modern Butterworth Machines or improved plant layout will help you to achieve greater yardage, better finishes, higher speeds and lower production costs. Write us today.

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Phila., Pa., Serving the Textile Industry Since 1820.
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***64%**

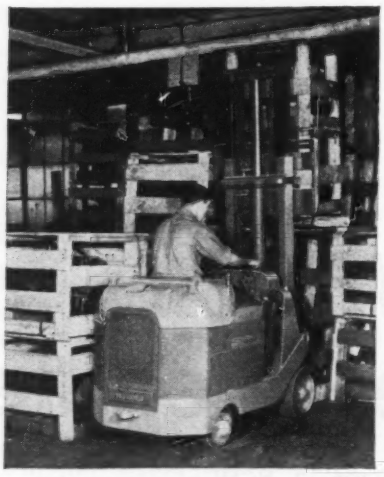
of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

All-Purpose Lift Truck

Towmotor Company, Cleveland, Ohio, has introduced the Model LT-44 all-purpose lift truck, capable of lifting 4,000 pounds. It has a 44-inch wheelbase, and overall width of 37 inches,

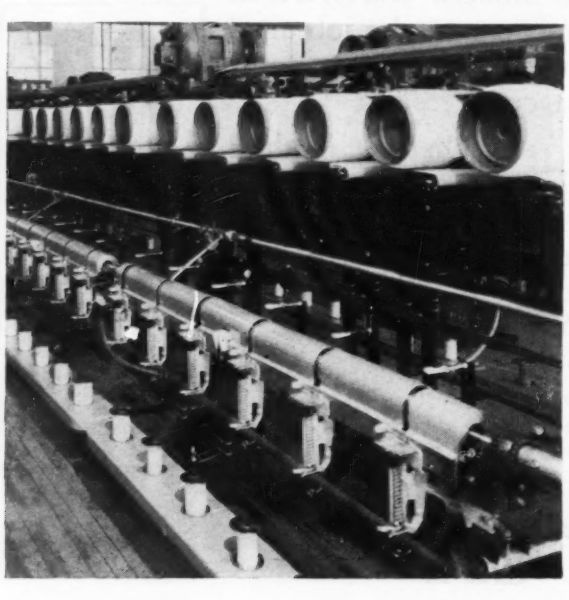


with turning radius of only 72 inches. It may be equipped with low, medium and high telescopic lifts up to 132 inches. The truck is powered by a 27½-hp. four-cylinder gas engine, equipped with degasser and governor, and travels at speeds from one to 10 miles per hour.

◆

Universal Sizing Machine for Nylon Yarn

Universal Winding Company, Providence, R. I., has announced a new machine for sizing nylon yarn. After twisting by throwster, the nylon yarn passes from the twister spool over the sizing roll and is wound onto large diameter sizing tube, which makes it possible to wind all of the yarn onto the package with very slight variation in yarn take-up speed, and getting a uniform amount of size on the yarn. When the large diameter tube is used the yarn must be rewound by the throwster into a shipping package. Since the sizing solution dries quickly and the accumulation of size on thread guides and other points must be cleaned, the design of the machine is such to facilitate cleaning, with all parts being easily moved or replaced in the machine. The machine controls the length of stroke of the traverse motion, the regular cam oscillating the thread guide, but the length of the stroke being changed continuously through a heart-shaped cam so that all yarn is covered and no parts left exposed. This special build makes it possible to cone direct from the sizing tube instead of rewinding.

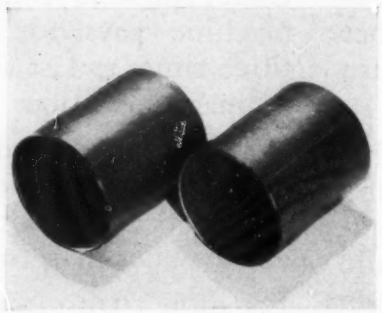


Universal's new nylon sizing machine . . . . .

◆

Bearing Made of "Bronze on Steel"

Johnson Bronze Company, New Castle, Pa., has announced the development of a new pre-cast bearing "Bronze on Steel" which "combines the strength



of steel with the bearing qualities of bronze". It was designed to meet the requirements of more compactness in bearings and a demand for longer life and smoother operation from increased speeds and loads.

The new product is essentially a thin wall, laminated type of bearing, starting with S.A.E. 64—Copper 80 per cent; tin 10 per cent; lead 10 per cent. This alloy is cast in solid bronze bars which unite the metals chemically and definitely establishes the grain structure of the alloy and the resulting bearings. The center of each casting is then removed by drilling, and the borings thus obtained reduced to a powder, treated in a hydrogen furnace to remove all oxides and then firmly bonded to strip steel. Bearings are made from the material, in strip form, the same as any other type of sheet metal bearing, the process being essentially a stamping and forming operation.

In comparison to cast bonds, the manufacturers point out, a higher Brinell hardness, a greater resistance to pounding and to shock and a comparatively low co-efficient of friction are secured. The higher ratio of tin to copper plus the greater percentage of lead, it is pointed out, provides smoother, quieter operation and longer life.

The new bearing is also available as a graphited bearing; graphite powder being mixed with the bronze powder prior to the bonding operation.

The new material is available as finished bearings, washers, strips or in rolls up to 400 feet in length. Bearings and bushings are made according to specifications. It is possible to have the bearing ball-indented to retain grease, and any type of oil hole, groove or slot is readily incorporated.

◆

Floor Maintenance Machine

G. H. Tennant Company, 2530 North Second St., Minneapolis, Minn., has designed the Model K high production floor maintenance machine, said to have a capacity of four times of the next smaller company model, and permitting widespread application of dry cleaning floors in textile plants. The machine eliminates cleansing ingredi-

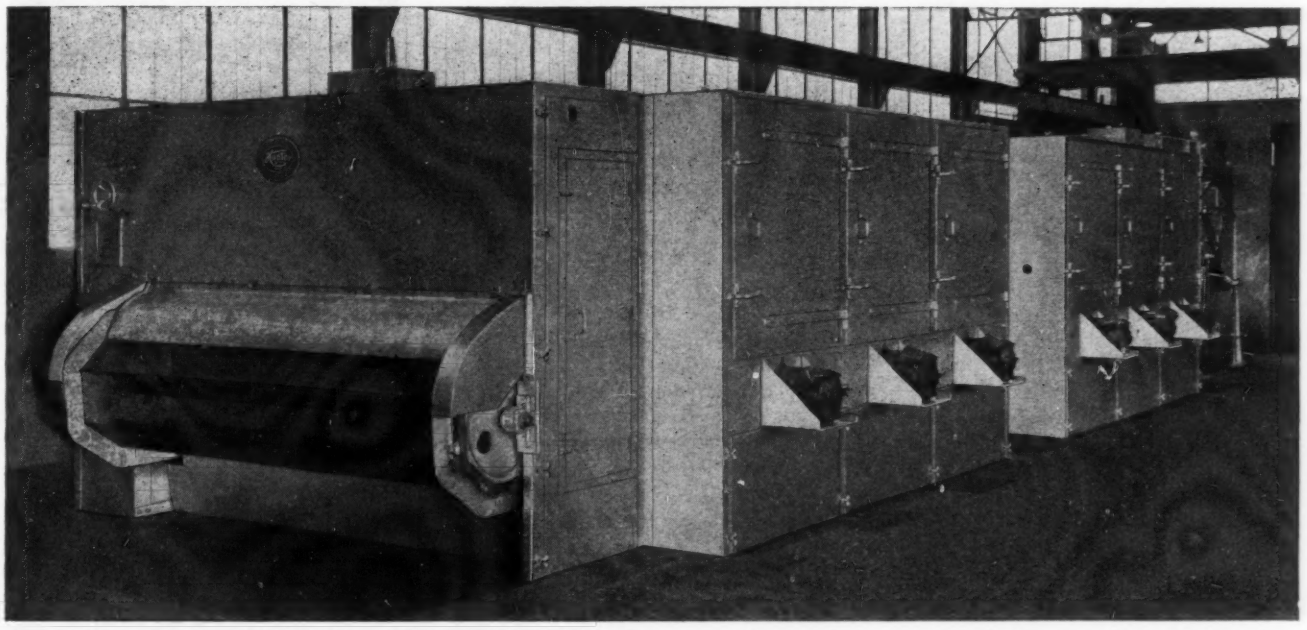
ents. Oily floors can be reconditioned and new floors preserved in their original condition, it is said.

◆

Supratol VF

Hart Products Corporation, 1440 Broadway, New York City, has announced Supratol VF, a highly sulfated oil that is said to promote level dyeing of wool and assist in penetration, and that also protects the fibers both in dyeing, bleaching, drying and in after use. The new product is a homogeneous chemical body and is able to form a stable compound with the basic groups of wool; it is slightly hygroscopic, and it is said that the retarding action is more powerful than glycerine, especially at high temperatures.

HOW TO DRY RAW STOCK



UNIFORMLY AND AT LOW COST FOR STEAM, POWER AND LABOR

Pictured above is the latest Hunter Stock Drying Unit. It is unlike any other available Stock Dryer.

It is duplex because it has fans on *both* sides. Equally important, it affords a means of turning over your material within the Dryer completely by unique air streams. Thus, you gain not only high production, but uniform drying.

Every fan is direct connected to its own motor; there are no belts or pulleys. Extended surface heaters are used throughout, and all heaters are screened against flying lint. It is equipped with special steel plate apron with automatic lubrication. It is complete with traveling wool guards and baffles that accurately direct the air streams. There is a size for every requirement. For complete details and actual installation data, write to

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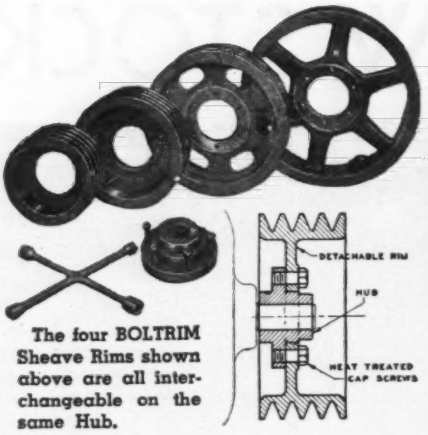
SINCE 1847 NORTH ADAMS, MASSACHUSETTS



The four BOLTRIM Sheave Rims shown above are all interchangeable on the same Hub.

Demountable Hub Sheave

Fort Worth Steel & Machinery Company, Fort Worth, Texas, has made available the Boltrim demountable hub sheave, which is constructed in such a way that rims of varying diameters and face widths can be mounted. The rim is attached to the hub with heat-treated cap screws, making it possible to remove the rim quickly without removing the hub from the shaft. Special tools are not required. Four different hub positions may be secured on the same sheave.

◆

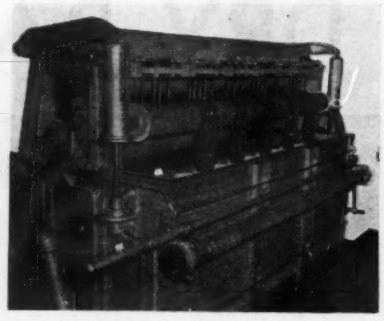
Adjustable Guide Balloons Cloth to Prevent Wrinkles

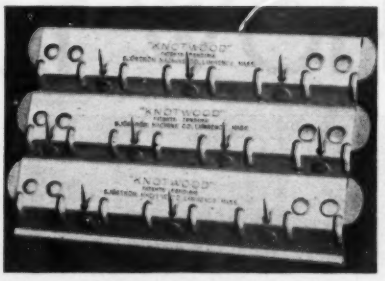
Rodney Hunt Machine Company, Orange, Mass., has announced an adjustable guide for washers and dyeing machines, which are instantly adjustable for any number of strings and give complete and exact control of the cloth as it goes through the machine. Infinitely adjustable, the guides may be set to squeeze the cloth so that it balloons as it goes through the guides, thus eliminating creases and wrinkles and giving more uniform washing and dyeing. It is said that the device also prevents excessive wear on the rolls by eliminating grooves.

◆

Metal Feeder Aprons for Pickers

Sjostrom Machine Company, Lawrence, Mass., has designed a feeder apron of steel that is equipped with steel spikes, for such uses as aprons in pickers, scouring bowls, carbonizing machines, etc. The aprons are said to eliminate slip and to give years of service. Working with slack, the aprons are said to save power. The aprons are driven on the principle of chain and hooked wheels, with no slip and no uneven feeding. It is said that the metal remains bright and clean and that grease and dirt do not cling to choke the pins; also, it is unaffected by climatic conditions and is fireproof. Stock does not work through slots.





Above, Rodney Hunt guides.. Right, metal feeder aprons (Sjostrom). . . .

Accelerated Testing Unit for Comparing Color Fastness

National Carbon Company, Inc., Carbon Sales Division, Cleveland, Ohio, has announced a new accelerated testing unit designed to provide a standard for comparing the color fastness of dyes, dyed textiles, etc. The radiation on the Type XV closely approximates that of natural sunlight. The unit has humidity control, adjustable to the desired degree of saturation, 24-hour operation without attention and rapid and reproducible comparison of color fastness, according to the company.

◆

Direct-Set Ratio Controller

Taylor Instrument Companies, Rochester, N. Y., has made available a highly adaptable, easily convertible instrument for applications where temperature, pressure, rate of flow or liquid level must be controlled in a desired ratio or differential to another related variable. The ratio is changed by a simple screwdriver adjustment directly on a calibrated dial throughout the range of 0:1 to 3:1, direct or inverse. It is unnecessary to disturb the processing or remove the chart plate while making ratio adjustments. The ratio controllers are available that indicate or record only, or either indicate or record.

◆

John H. Collier has been elected president of Crane Company, Chicago, Ill., succeeding the late Charles B. Nolte, who died on April 29.

◆

Sectional Paper Contest for A. A. T. C. C. Pinehurst Meeting

At the annual convention of the American Association of Textile Chemists and Colorists, to be held at Pinehurst, N. C., on October 31-November 1, one session will be devoted to a contest between papers prepared and presented by each of the eight active sections.

This feature was started at the 1940 meeting in New York last Fall, and met with general approval. In the contest, each section of the association prepares a technical paper on some subject of its own selection, and prizes are awarded for the three selected as the best by a committee of judges representing the sections, with President Emeritus Louis A. Olney as "chief justice". At the New York meeting last year, first prize went to the Rhode Island section, with the Southeastern section winning second prize, and the Philadelphia section getting third prize.

Kenneth H. Barnard, chief chemist, Pacific Mills, Lawrence, Mass., is chairman of the technical program committee for the annual meeting, under whose jurisdiction the contest will be held.

Samuel L. Hayes, southern manager, Ciba Co., Inc., Charlotte, N. C., has been named general chairman of the annual convention committee by L. M. Boyd, chairman of the Piedmont section, under whose auspices the association is meeting at Pinehurst, where the Carolina Hotel will be headquarters.

◆

G. G. Slaughter Forms Selling Organization

G. G. Slaughter, who for many years has represented Atkinson, Haserick Co., Boston, has established his own selling organization under the name of Slaughter Machinery Co., 429 East Kingston Ave., Charlotte, N. C. The organization, which is composed of G. G., V. H., J. Fred, and Edwin F. Slaughter, represents, as southern agents, Blickman Company, Cidega Machine Shop, Steamaire Co., Atlas Electric Devices Co., American Obermaier Corp., Atkinson, Haserick & Co., and others.

G. G. Slaughter

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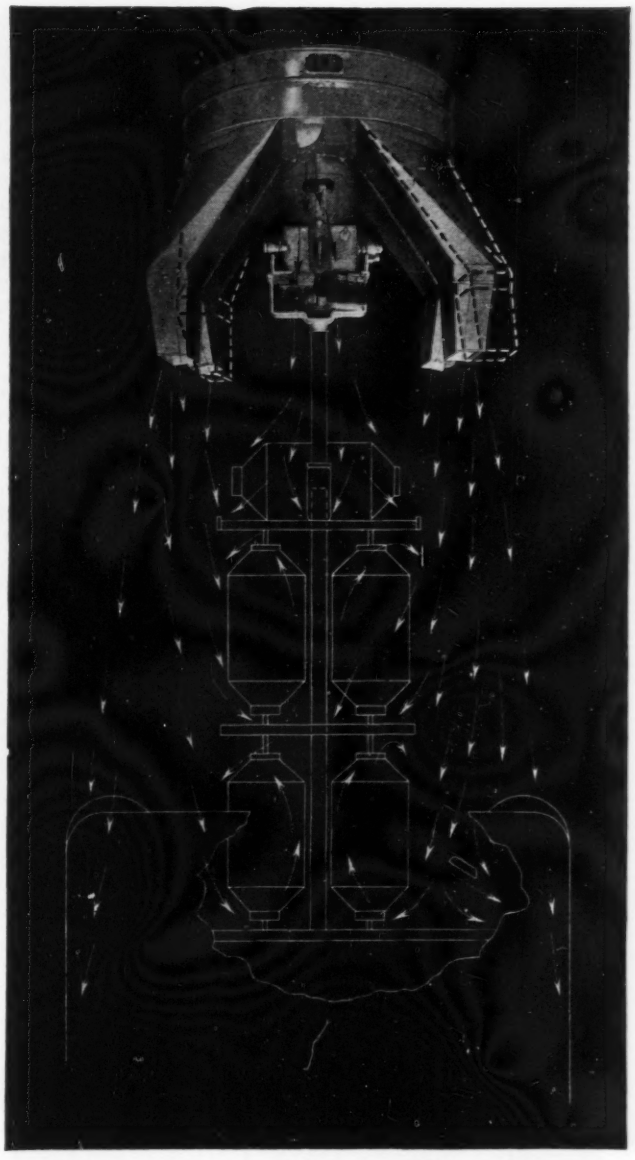


Where do you want the Air?

On all new Parks Automatic Traveling Cleaners air outlets are adjustable.

The volume of air is adjustable. Where it is delivered is also adjustable. Both air streams may be "spotted"—inward—directly downward—or outward. One side may be spotted independently of the other and in a different direction.

This improvement makes Parks Traveling Cleaners more flexible—and still more efficient.

Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

Report on Denim Stocks and Inventory Policies

Inter-market statistics are the greatest single need of denim mills in managing their cloth inventories, according to a study made by the Industrial Research Department of the Wharton School of Finance and Commerce, University of Pennsylvania, publication of which has been made by The Textile Foundation.

This report, "What to do About Denim Stocks", is the first of a series of seven which the Industrial Research Department of the Wharton School has prepared for The Textile Foundation under the general title "Inventory Policies in the Textile Industries". Others in the series to be published in the near future will deal with inventory problems of the wool-textile (men's wear division), the cotton-fine goods, the rayon-weaving, cotton print-cloth, and full-fashioned hosiery industries. The final number of the series will summarize the preceding industry reports and discuss recent inventory trends in the production and distribution of textiles.

"What to Do About Denim Stocks" is a case study of the inventory experience during the 1930s of an industry manufacturing staple finished goods. It reveals that denim mills drifted into the warehouse business during this decade, and cites the experience as indicative of the kind of inventory problem that can arise even when style plays no part in production or distribution and when both are concentrated in strong hands.

How to reduce or offset the costs of being in the warehouse business is a far more important question to denim mills in the 1940s than how to get out, according to the analysis. Barring unforeseen changes wrought by the defense program, the industry will have to solve its own problem. Two steps are outlined in the study by which denim mills might reduce their costs; (1) reduce average volume of stock carried just to service deliveries, and (2) minimize adjustments granted on unfilled contracts. Special emphasis is laid, however, on planned operations as a means of offsetting the costs of warehousing denims. Why carry stocks for customers unless these goods can be made the basis of stable operations?

Whatever attack denim mills make on their stock problem, they will need more facts about their business than they now possess, states the report, particularly if they elect to plan their output. They will need to know the trend of consumption and the ebb and flow of cutter and distributor speculation. The only practical basis for the development of such statistics is an inter-market program helpful to distributor, cutter, and mill alike.

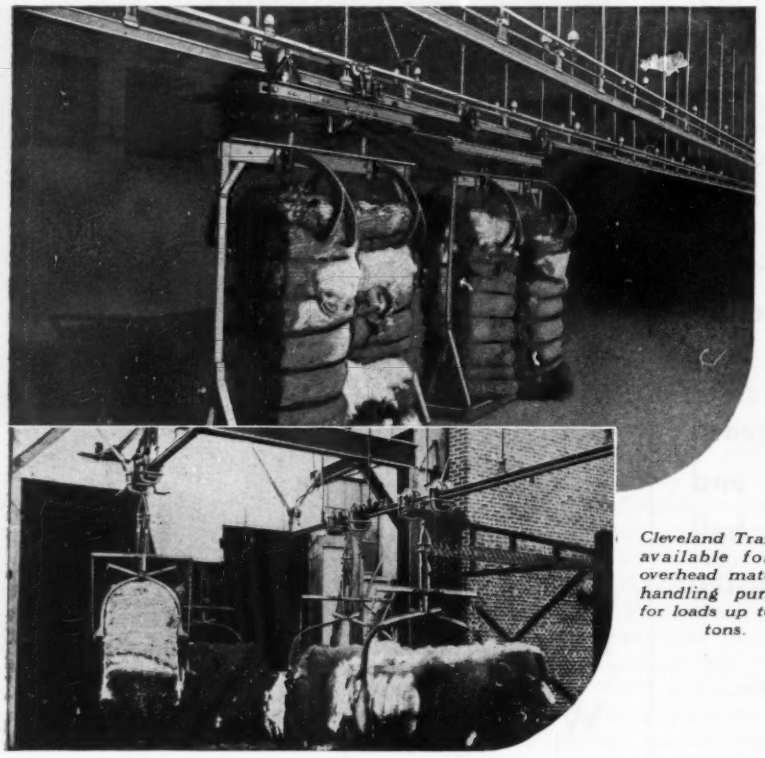
As an initial inter-market statistical program helpful to all participants, the study recommends the collection and exchange of the following information currently: (1) mill production, (2) denim commitments and takings of representative cutters, (3) denim overalls commitments and takings of representative wholesalers and large-scale retailers, and (4) sales of denim overalls to consumers by large-scale retailers.

The inventory series of studies was recommended to the Textile Foundation by the Committee on Economic Research of the U. S. Institute of Textile Research of which Fessenden S. Blanchard is chairman.

Copies of the report, "What to Do About Denim Stocks", at 50 cents each, may be obtained from The Textile Foundation, Washington, D. C. The Foundation is also accepting orders for the entire series at $3.00, individual reports to be mailed on publication.

◆

Charles H. Stone of Charlotte has been named vice-chairman of the Chemical Industry Craft assembly for the 1941 convention of Rotary International in Denver, Colorado, June 15-20.



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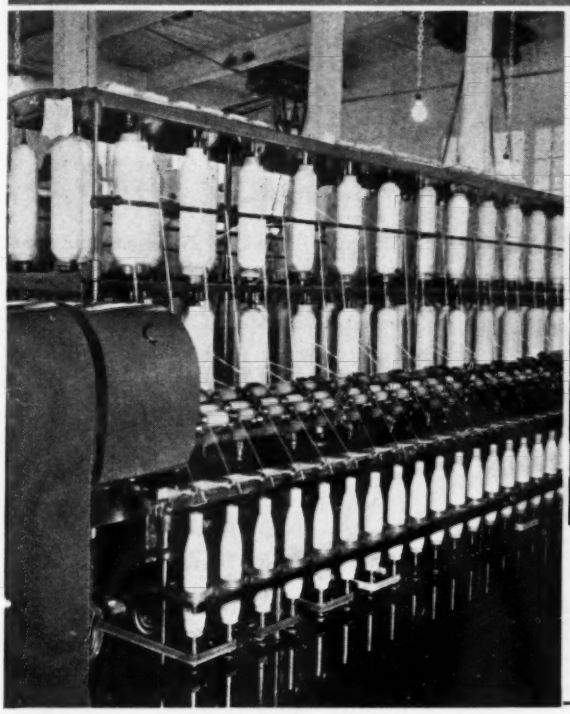
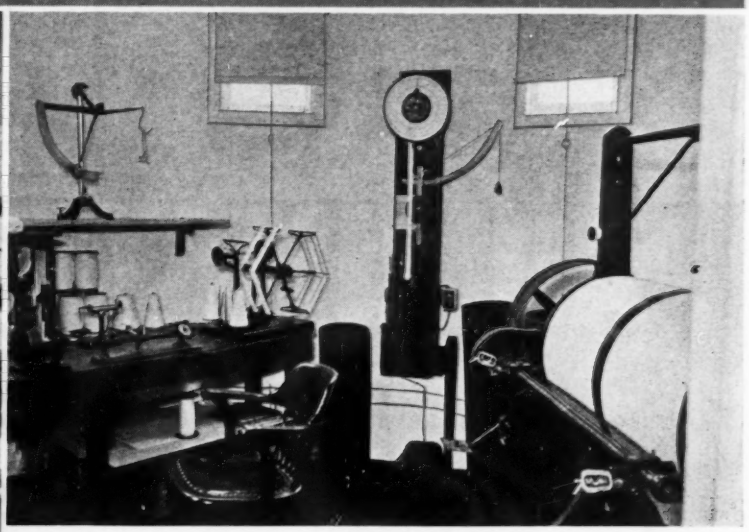
NOW STOWE MILLS SPIN STRONGER, MORE UNIFORM YARN . . . THANKS TO *Armstrong's Cork Cots*





Precision-made, tough, sure-gripping, and resilient, Armstrong's Cork Cots spin strong, uniform yarn for Stowe Mills, McAdenville, North Carolina.

Tests made in this Stowe Mills laboratory prove that Armstrong's Cork Cots deliver a better product than any coverings they have previously used.

STOWE MILLS are just one example of the hundreds of mills that have profited by switching to cork—the *modern* roll covering. By making this wise change, they have found that the absolute uniformity of Armstrong's Cork Cots—from end to end and throughout their entire wall thickness—gives them a better contact with the bottom rolls and provides a finer, more positive draft. As a result, the yarn now spun by Stowe Mills is stronger and more uniform than ever before.

There's a profit lesson here for *every* yarn manufacturer. For Armstrong's Cork Cots give better running work . . . fewer top roll laps . . . less end breakage. By using these cots, *you* can turn out a more uniform product—eliminate eyebrows—reduce clearer waste.

Yet these cots cost no more than ordinary roll coverings! And your savings start right away—due to faster, cheaper assembly. What's more, your savings *mount steadily* as time goes by, because Armstrong's Cork Cots last longer—and they can be renewed *three or four times* by rebuffing, at a unit cost of only about ½¢.

Let an Armstrong representative show you actual production figures of mills spinning your range of numbers on cork—and how 8,500,000 spindles are now spinning better yarn at lower cost. Write Armstrong Cork Company, Industrial Division, Textile Products Section, 923 Arch St., Lancaster, Pennsylvania.

ARMSTRONG'S *Extra Cushion* SEAMLESS CORK COTS

CORK PRODUCTS SINCE 1860

E. T. Pickard to Devote Full Time to Textile Foundation and Research Institute Activities

Edward T. Pickard, for 20 years chief of the textile division of the Bureau of Foreign & Domestic Commerce, Washington, D. C., has resigned to devote his full time to The Textile Foundation, of which he has been secretary since its formation in 1930, and to the position of executive secretary of the U. S. Institute for Textile Research, which he accepted last month.

With a common executive head, the Foundation and the Institute will now operate under a plan for a broader and more aggressive research program for the textile industry. The Foundation has long underwritten many projects of the Institute, and plans now call for a close working agreement between the two organizations.

At the annual meeting of the Institute on May 16, Fessenden S. Blanchard, of Pacific Mills, New York City, was named as president; Fuller E. Callaway, of Callaway Mills, LaGrange, Ga., and Robert E. Rose, of E. I. duDont deNemours & Co., Wilmington, Del., as vice-presidents; and H. DeWitt Smith, of A. M. Tenney & Associates, New York City, as treasurer.

Obituary

ALBERT LEHMANN, JR., for 15 years superintendent of The Dixie Cotton Mills, LaGrange, Ga., passed away at his home on May 19, following a heart ailment. He was a brother of E. R. LEHMANN, of Langdale, Ala.

E. J. LEFORT, 67, who was connected with Ciba Co., Inc., for more than 16 years, passed away at his home in Greensboro, N. C., on May 9, following an accident.

ROBERT M. THURNAUER, vice-president of Westminister Hosiery Company, passed away May 3 as the result of a heart attack.

ROBERT FREDERICK HERRICK, JR., vice-president of Scott & Williams, Inc., and a director of Saco-Lowell Shops, passed away May 1 at the age of 47.

ARTHUR NEILL, head of the towel division of Callaway Mills, LaGrange, Ga., passed away the latter part of April.

EDWARD POWELL, 90, president and founder of the Powell Knitting Company, passed away April 22.

WILLIAM J. KERWIN, 72, for more than 23 years superintendent of the Beacon Mills until his retirement in 1927, passed away at his home in New Bedford, Mass., April 21.

CARL G. V. SJOSTROM, president of the C. G. V. Sjostrom Co., Springfield, Mass., manufacturers of dyestuffs and other textile chemicals, passed away April 11 at the age of 82.

EDWARD LOVERING, vice-chairman of Pepperell Manufacturing Company, passed away the latter part of April at the age of 76.

C. W. GADDY, manager and superintendent of the knitting department of Wiscassett Mills Company, Albemarle, N. C., passed away on Sunday, May 4, following an extended illness. Mr. Gaddy, who was 61 years of age, was a pioneer in the development of knitting in the South. He had been associated with the plant at Albemarle since 1899.

B. FENTON MACK, president of the Allentown (Pa.) Bobbin Works, Inc., passed away on April 24 at Tampa, Fla., as a result of a heart attack, following an attack of pneumonia.

PATRICK MCGARITY, 59, for the past 19 years superintendent of Mills Mill, Greenville, S. C., passed away suddenly the early part of May.

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FOR ECONOMICAL MATERIALS HANDLING IN THE TEXTILE INDUSTRY

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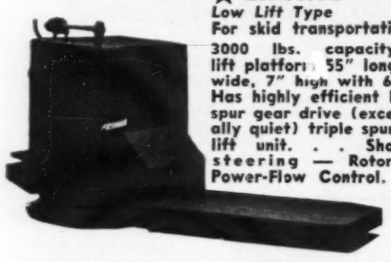
Low Lift Type
For skid transportation
3000 lbs. capacity—has lift platform 55" long, 27" wide, 7" high with 6" lift. Has highly efficient helical spur gear drive (exceptionally quiet) triple spur gear lift unit. . . Shockless steering — Rotor-Brush Power-Flow Control.



★ TIERING
High Lift Type
3000 lbs. capacity has platform 55" long, 26" wide, 6" high with 60" lift.
Drive unit has highly efficient helical spur gear reduction. Platform raised and lowered safely by two roller chains sprocket driven from powerful gear unit. . . Shockless steering — Rotor-Brush Power-Flow Control.

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Capacities 1000 and 2000 lbs.
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Get Full Details

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Platform Type
4000 lb. capacity.
Equipped with pneumatic tires. Exceptionally speedy and efficient. For outdoor and ramp operation.
Platform deck 100" long, 51" wide, 29" high.
Has heavy duty spur gear drive—hand wheel steer—Rotor-Brush Power-Flow speed control.

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For every hauling purpose. Tractor is exceptionally compact and powerful. Has 1000 lbs. Max. hauling D. B. P. Two wheel steer. Quiet drive. Rotor-Brush Power-Flow control.

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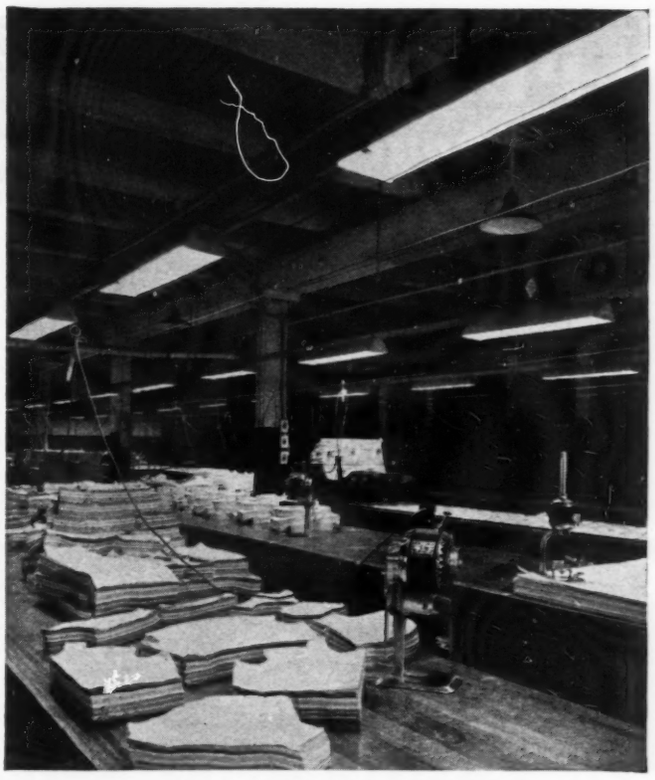

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PERSONAL NOTES
About Men You Know

CLIFFORD B. HAYES, formerly general superintendent of the Lyman, S. C., plant of Pacific Mills, has been made a vice-president of the organization and will have charge of all southern manufacturing operations of the company,

Mr. Hayes

including the grey cloth mills of the Hampton Division at Columbia, S. C., and the weaving and finishing plants at Lyman. E. DEAN WALLEN, formerly general manager of the worsted division, was also elected a vice-president and will have charge of the operations of the Worsted Division, with plants at Lawrence, Mass.

R. W. SCHRIMSHIRE, formerly superintendent of the yarn mill at the Jordan Mills, Inc., Columbus, Ga., has been promoted to general superintendent of the yarn mill, weaving mill and knitting mill. BEN F. CUMMINGS is now assistant superintendent in charge of day operations, and SLOAN ALEXANDER, formerly overseer of spinning, has been promoted to assistant superintendent in charge of night work.

O. S. SHELTON, formerly of Columbus, Ga., has accepted the position of overseer of spinning at the Itasca (Tex.) Cotton Manufacturing Company. J. A. BISHOP is overseer of carding at this plant now.

J. C. HOLT has resigned as overseer of carding at the Atlantic Cotton Mills, Macon, Ga., to accept a position as general overseer of carding at the Winton Cotton Mill, Banning, Ga.

W. C. BEARDEN has been promoted from secondhand to overseer of carding at the Sauquoit Plant of Standard-Coosa-Thatcher Company, Gadsden, Ala.

A. H. HOLT, formerly associated with the Cherokee Spinning Company, Knoxville, Tenn., has been made assistant superintendent of the Scottdale (Ga.) Mills.

A. K. DEAL, manager of the Collinsville (Ala.) Hosiery Mills, has purchased a hosiery mill at Benton, Ky., and will operate it himself.

J. C. MEEHAN, formerly overseer of weaving at the Pell City, Ala., plant of Avondale Mills, has been made overseer of weaving at the Texas Textile Mill, McKenney, Texas.

JOHN E. PEARY has been named as superintendent of the Hampshire Woolen Company, Ware, Mass., having formerly been associated with the Vassalboro Mills, North Vassalboro, Me. LEONARD R. ALEXANDER has been superintendent of both of the company's plants and will now give his full time to the Ware Woolen Company.

LAWRENCE A. CHURCHVILLE, formerly with Shawmut Woolen Mills, Stoughton, Mass., is now superintendent of the Seneca (N.Y.) Knitting Mills.

J. A. SMYTH has received a promotion from overseer of weaving to assistant superintendent and vice-president of Balfour (N.C.) Mills.

R. L. STOWE, JR., secretary and assistant treasurer of Stowe Spinning Company, Belmont, N. C., has been elected assistant secretary and treasurer of Chronicle Mills and National Yarn Mills, Inc., also of Belmont. He is also a director of Imperial Yarn Mill.

JAMES MAIR has been made general manager and superintendent of the Trimfit Hosiery Mill, Philadelphia, Pa. He formerly was head of the Revere Knitting Mills, Riverside, N. J., and more recently was associated with Dexdale Hosiery Mills, Penderlea, N. C.

ROBERT R. WEST, director of the Bureau of Industrial Research at the University of Virginia, and previous to that president of Riverside & Dan River Cotton Mills, Danville, Va., has been appointed manager of the OPM defense contract service for the Fifth District, with headquarters in the Federal Reserve Bank Building, Richmond, Va. Mr. West will retain his position with the University.

E. O. PIRKLE, formerly in charge of finishing at Davenport Hosiery Mills, and RHYS COOPER, formerly with Artcraft Silk Hosiery Mills in charge of hosiery designing and silk planning, have become associated with Burlington Mills Corporation in similar capacities.

C. K. TORRENCE has been made secretary-treasurer of the Superior Yarn Mills, Gastonia, N. C., succeeding W. H. SUTTENFIELD, who is now associated with American Yarn & Processing Company.

(*Obituary Items on* 110)

Waiting Room Stuff

Ira Griffin [Stein, Hall & Co.] has been traveling the southern territory since he was a boy—in a horse and buggy—and knows all the eating places (off the main streets). Ask him about Charlie's Place in Greenville, where the good steaks are.

•

Bigham Smith, [Terrell Machine Company] also claims to be an expert on restaurants. Whenever he gets into a new town, he says he looks in the directory for the "O. K. Cafe", and he is all set.

•

Ask Henry McD. Tichenor, president, Walton Cotton Mills, Monroe, Ga., how he liked his ride to New York on the Southern's new "Streamliner" day coach train last month.

•

Eddy Jerome [Victor Ring Traveler Co.] may wonder why Whitin Machine Works and COTTON came in for a share of the wire which he received at the recent Knitting Arts Exhibition in Philadelphia reading: "Greetings to all, especially to Browning and Fonville from 'The Little Girl who wasn't there.'"

•

Hugh Comer still claims that rougher element gave S. W. Quisenberry [du Pont] the prize as best dressed man at Mobile.

•

See the picture of Miss Jeanne Goodin on page 89 of this issue, a student at Auburn's textile school (and there are other lady students). The school can look for an influx of traveling men in the near future.

•

John Seydel and E. A. Scott [Seydel-Woolley Company] should keep off bridges in automobiles, especially when a sign reads "No vehicles allowed. Bridge condemned. Bicycles and scooters keep off."

•

Matt Ousley [U S Bobbin & Shuttle Co.] is the recognized dean of bobbin and shuttle salesmen. Matt knows just about everybody who ever ran a mill.

•

E. M. (Plute) Potter, Charlotte, is now selling a line of electric trucks for hauling and lifting purposes in and around textile plants.

•

"How to send 'em away happy without falling for their crappy", a booklet for purchasing agents, could be written by a couple of boys in the Woodside Bldg., Greenville, S. C. They are old-timers in the business.

•

Overheard in the Burlington Mills office: "That fluorescent lighting is the stuff, ain't it? Lot's of 'em are putting it in now."

•

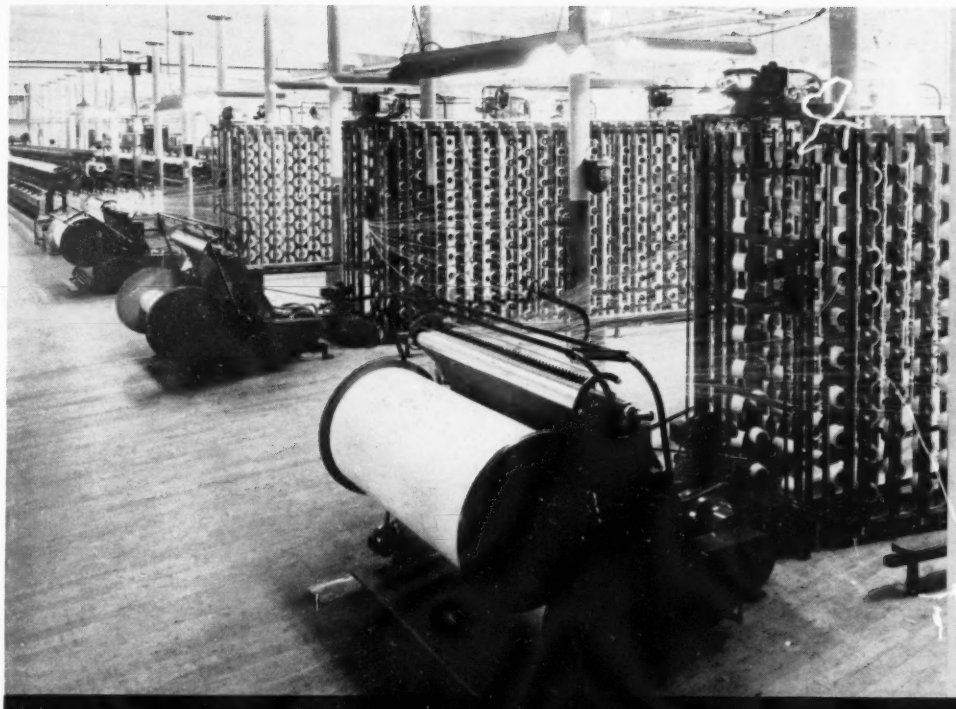
Ernest Wooten [Allen beam heads and Mitchell-Bissell porcelain] has fattened up considerably since living on his farm at Fort Mill, S. C. How's crops, Ernest?

•

At the Mecklenburg in Charlotte, Manager John McDonald was pointing out various personages in the wrestling game, and among those he introduced were Jack Royski and Dixie Osteeno? Recognize them?

•

Henry Jaeger [Wytheville Woolen Mills] has been traveling with various mill supply salesmen who sell his slasher cloth. Henry says these are the boys who can get in where the mill president is not allowed.



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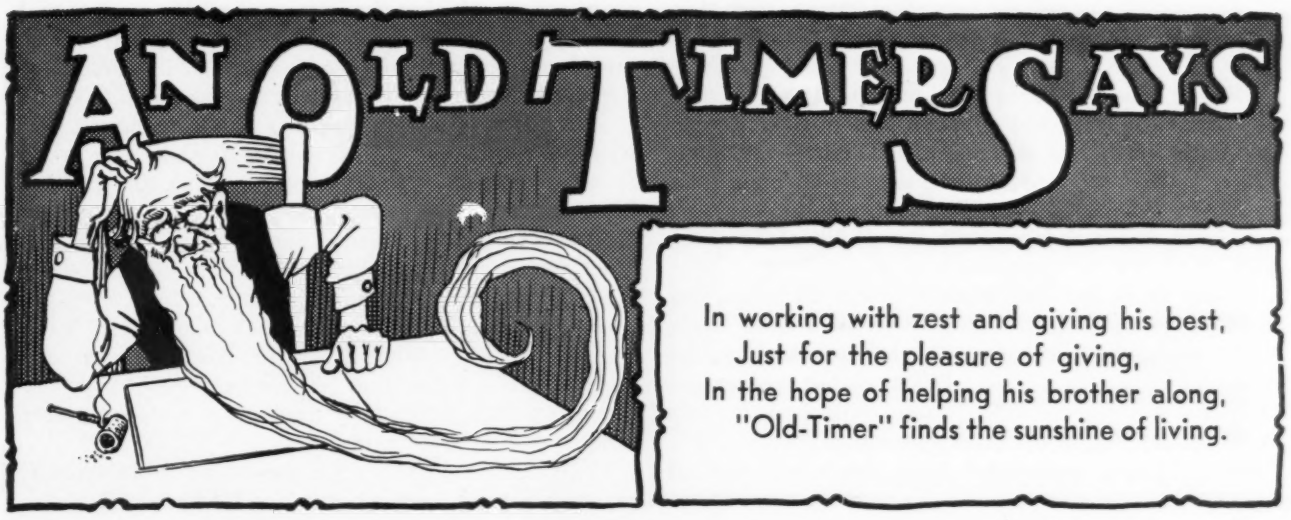
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Another Conversation about Several Things

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER's part in the conversation, while those in *italics* represent JIM's part.)

Well, if it isn't OLD-TIMER *in person. Sure am glad to see you, and where in Heck have you been? It seems ages since I saw you. Come on, now, and give an account of yourself.*

O. K., JIM. I have a little work I wish to have done on the old jalopy. After this long trip I've just made it sounds like it's kind of tired or something. So I'll go on up town and have that done, and then I'll meet you at your house just about dinner time.

Good enough, OLD-TIMER. *We will be looking for you and you know the Missus well enough not to be late for dinner.*

(After dinner, with "Old-Timer's" corn cob lighted and "Jim" with a big chew of tobacco in his mouth.)

Now, let's have it, OLD-TIMER. *Where have you been and what have you been doing?*

Well, JIM, you know how a fellow gets restless sometimes and wants to go somewhere. Matters not whether has any special place to go, he just wants to go somewhere and will not be satisfied until he does take a trip some place. People who live in the East want to go west. People who live in the West want to go east. And so on, with North and South or beach and mountains. Guess most of us are simply born that way, JIM.

So I threw the bags in the back of the car and started west from up in North Carolina. Drove something over 2,000 miles which took me as far west through Tennessee and Arkansas as Hot Springs—from Hot Springs down through Mississippi, Alabama and Georgia to Atlanta. On that return trip, through Shiloh National Military Park and down through Corinth, Miss., it is a beautiful country of fine roads and from there on through Tuscumbia, Florence and Huntsville. I saw more water than I ever thought was in the world except in the oceans.

Gosh, JIM, it seemed that it was almost one continuous lake—Muscle Shoals, Wheeler Dam, Wilson Dam, all on the great Tennessee River—must be capable of generating enough power for the whole United States, and business is certainly booming all through that section.

After dinner at Memphis, we looked at the map and decided to drive a few hours more on toward Muscle Shoals in order to have a day to look around the big water projects. We decided to drive to Tuscumbia, Ala., but found every hotel there full—only a few miles to Sheffield, Ala., the next town, so we drove on, and by George, every hotel there was full—nothing to do but keep on driving to the next town.

Therefore, on to Florence, Ala., a much larger town, which we found in the same condition. The clerk at one of the hotels in Florence called other hotels in nearby towns but they were all full. Two local men who heard me talking to the hotel clerk volunteered to call tourist homes they knew of and one called a private home—all full, but, boy, the people all through that section are certainly very courteous. Several times when we had to stop to study our map, cars would stop by us and the passengers would inquire where we wished to go and then would say, "Follow us and we will show you how to get on the right highway".

But, gosh, JIM, it began to look like we were going to have to sleep in the car, and then we saw a tourist sign ahead and found a vacancy. A clerk at the hotel in Florence, Ala., where we had breakfast, explained, when I told him the trouble we had the night before in finding a place to stay, that it was really the busy season for traveling men in that section, and in addition to that there was just naturally more business than usual and they seemed to have more tourists than usual. Anyway, if you are traveling in that busy section soon you had better wire ahead for reservations where you expect to spend the night.

On down through Alabama we traveled the next day and seeing that Huntsville, Ala., was not far off of our schedule route, of course I had to see old Merrimack.

That's right, OLD-TIMER, *you started up that big mill, didn't you?*

Sure, JIM, and I had not seen the plant since I left there in 1907, I believe it was.

And didn't you tell me once, OLD-TIMER, *that Merrimack was the first 100,000-spindle mill built in the South?*

Maybe so, JIM. I do not know positively that it was, but I think so, and Olympia Mill in Columbia, S. C., was probably the second 100,000-spindle mill built in the South. Any way, Merrimack and Olympia were the first two 100,000-spindle plants, I think, which were built in the South. Both were built along about 1900.

I also think the first weaver to run 24 looms was at Merrimack, and on that fact hangs a little story which shows just how fast the textile industry has progressed since that time. When we put weavers on 24 looms, Mr. George Otis Draper published the fact in many textile papers both here and abroad. The English papers commented very vigorously against such impractical attempts of mills in the United States to give weavers more floor space to cover than it was possible for a human being to take care of. Mr. Draper, who was a personal friend of mine, sent me clippings from these English papers.

Reading so much criticism caused me almost to believe we had given the weavers too many looms, and therefore I had what I thought was a bright idea. I would fix it up so that the weaver did not have to walk but could ride from where the last loom was stopped to the next loom to be started up. We placed a track of half-round iron in the weavers' alley and built a truck with a revolving stool in the center of the truck. On one end of the truck was a filling box. The other end of the truck was used by the weaver to place a roll of cloth on until the weaver happened to be at the end of the alley where the roll of cloth would be removed from the truck.

When I wrote Mr. George Otis Draper about the truck he came to Huntsville immediately to see it. His comment was: "You sure have solved our problem. Just wait until those Englishmen see our weavers riding instead of walking. We must have the idea patented at once." He did have it patented and several years later in looking through an I. C. S. book on weaving I was surprised to see a cut of the truck with comments concerning it. Of course you know we soon found that the truck was not needed and we advanced weavers to 30 and 40 looms.

Merrimack was the only plant I ever had charge of where we had plenty of water for everything. Huntsville is noted for its big springs with a flow of several million (million—yes that's correct) gallons of water per 24 hours. One spring is located almost in the heart of the city. Then on the Merrimack Mill property was a spring with a flow of, if I remember correctly, about four million gallons in 24 hours. We had two large cross compound engines and put that cold spring water in one end of the condensers and out the other and did not need a cooling tower, spray pond or anything to cool the water for use again; just gave the condensers all the water they would take and let it discharge down the creek. Oh, boy! What a joy it was to the power plant, a maximum vacuum all the time, and that water came to the pumps by gravity too.

Yeah, JIM, it was a lot of pleasure to see the place, and a few of the men are still there who helped start the plant up. I found Mr. George Lehman, who was overseer of spinning for me—one of the best men I ever knew or worked with. His brother Jim was master mechanic and another brother was overseer of carding, all fine fellows and as true as gold.

When I walked into George's house he came to me with open arms and neither one of us had much to say for a few minues. Then we both began to laugh, that laugh of joy, you know, JIM, when you see a true friend, a friend who seems like a brother, a man who stuck to you as long as he felt you were right, matters not what all the others said, a man whose word you knew was as good as an oath on a stack of Bibles as high as the sky. Well, those kind are rare, yes, very rare—and I suppose they should be excused for "filling up" a little when they meet after not seeing each other for 30 years or more.

Then I looked up Jerry Lambert who was overseer of slashing and drawing-in. Yes I'll have to tell you, JIM, about a pretty mean trick I played on Jerry one time. Jerry had 24 drawing-in hands and always seemed to me to be a little bashful around the ladies. Well, I hired a loom fixer by the name of Cotton and when he came to work one Monday morning he brought along his grown daughter who was a drawing-in hand and a very beautiful girl she was.

Mr. Cotton explained to me that his daughter was a mute (deaf and dumb) and asked that I also explain this to the overseer so his daughter would not have the embarrassment of having to try to tell the overseer herself.

In going up the elevator to the drawing-in room the thought occurred to me to have a little fun with Jerry Lambert as I knew he was very bashful. So I took Miss Cotton up to Jerry's desk and while we three were standing pretty close together, which is the custom in a room of running machinery in order to hear someone talk, I said, "Jerry, here is an expert drawin hand I'd like for you to put to work. Isn't she beautiful? How would you like to kiss her?"

Of course Jerry did not know Miss Cotton could not hear me. He turned as red as fire and turned around and walked off. Well I waited and waited for him to come back but he did not return, so I began looking for him, and his assistant told me he had gone out toward his house in a big hurry and did not even take his hat and coat. You know, JIM, I had to go out to his house and not only explain to him that Miss Cotton was a mute and did not hear what I had said, but I had to apologize (which I should have done) and beg like the dickens to get him to return to his work.

So, the mean joke was really on me instead of on Jerry and I never told anyone about it until several years later.

To tell the truth, I was afraid to tell it for fear Jerry would quit again. Anyway, I have always been a little ashamed of it.

Served you right, OLD-TIMER.

Yes, guess it did, JIM. Oh, there are a lot more little incidents which occurred at Merrimack those long years ago which might be termed events in the textile industry but it would take up too much space to tell them, and you know these editors. Some of these incidents would be as embarrassing to relate as the story about Jerry Lambert because they would

(*Continued on page* 122)

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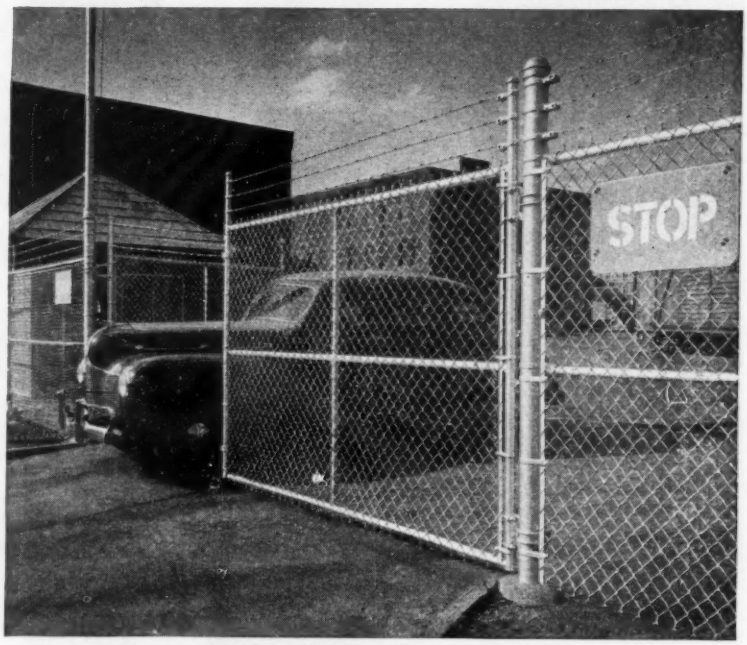

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HOW OTHER MEN MANAGE

Small Roving Bobbin'

Some pointers on how to correct the trouble . . . . . .

WE INVITE our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing.

EDITOR COTTON:

Your "CONTRIBUTOR No. 7210" has stated in his question on page 109 of the April issue that his 8x4 roving frame is making a package on the back line of spindles that is ¼-inch smaller than the package on the front line, and that appearances indicate that the tension on the back line is tighter than on the front line, but he has checked spindle speeds and gears and cannot locate the trouble. I offer the following opinion:

The tension on the whole frame is too tight. The back row of spindles *always* has a tendency to wind harder and better (being nearer to the front roll). In other words, when the frame has too high a tension in general, the back spindle can "take it", while the strain and stretch causes the front bobbin to become fluffy.

Check the frame as follows: (1) Count the lays or laps per inch on the bobbin. For 2.15 hank 13 to 14 laps will be in order. (2) Put in another tension gear, say 2 or 3 teeth *slacker*. If the tension is too slack it can readily be seen.

From time to time check the roving between the roller and the flyer by lifting it a few inches with a pencil and then drop it quickly to study the take-up. If it takes up too fast then the tension is still high. If it stays slack a few seconds and then flows *in* normally the tension will be correct.

CONTRIBUTOR No. 7212

◆

EDITOR COTTON:

With reference to the question by "CONTRIBUTOR No. 7210", I might inform him that with the distance of 12 to 13 inches between top of flyer and the bite of the front roll on the front line of spindles, and only 6 to 7 inches between the top of the flyer and the bite of the front roll on the back line of spindles, if he is setting the tension from the back line, the tension would be tighter on the back than on the front line or bobbins, since the greater distance with the sag in it will probably not wind as tight as the back line—without any sag.

2.15 hank roving from .50 hank double is very coarse to put through 8x4 flyers; the hole in top of the flyer may be small for this size double roving. Also, the slot probably is small, as well as the eye in the presser, which may be the cause of some of the trouble.

The back bobbin shaft gear and front bobbin shaft gear should be 37 teeth and if the other gears are as they should be, and the tension properly set, with the right kind of gearing, and the operative is not shifting the cone belt during a doff, there should be no difficulty with variation in diameter of 8x4 bobbins of roving on the front and back lines of spindles.

It is possible that on the front bobbin shaft gear, the teeth are worn considerably, and on the back bobbin shaft gear, a new one has been put on, and this would cause the trouble referred to. When one gear wears out, both gears should be replaced at the same time.

CONTRIBUTOR No. 7227

◆

EDITOR COTTON:

Regarding the question of "CONTRIBUTOR No. 7210" I might say that it is a common thing on all roving frames for the back row of spindles to carry a tighter tension than the front row, and that the bobbins from the back row of spindles are always a little smaller than those from the front row of spindles. The reason for this is that the roving on the back row has a more direct pull from the front roll to the bobbins than the front row has, but this does not answer this contributor as to why he is having so much trouble.

This man has H. & B. frames and on such frames one pair of cones are used for all sizes of frames; the cones are the same on the 12x6 as on the 6x2½ and all sizes in between. On the 12x6 the cone belt travels the whole length of the cones to build a bobbin, while on the 6x2½ the belt is started about 8 inches from the small end and only travels about 11 inches to build a bobbin. It is possible that the starting point of the belt is not right for the 2.15 hank roving that this man is running. The gearing and starting point on 5 hank roving is different from that for 2.15 hank roving, and I would suggest that this man get in touch with the machinery manufacturers as they will be able to assist him greatly. Machinery manufacturers are specialists in their line and will be in a position to remedy his trouble quickly.

CONTRIBUTOR No. 7226

◆

EDITOR COTTON:

Answering "CONTRIBUTOR No. 7210". We have never had this problem that he has encountered. However, we know of a mill that had this to happen on rayon.

In his last sentence he states that the tensions on the back line of spindles is tighter than on the front and proves this with the statement that the roving on the back line of spindles weighs 46 grains per 12 yards and the roving on the front line of spindles weighs 48 grains per 12 yards.

It has been our observation that the ends on the back line of spindles always run tighter than the ends on the front line. The reason being the distance from the front roll to the top of the spindle on the front row of spindles is greater than the distance from the front roll to the top of the spindles on the back row. In other words, the twist is spread over a greater distance on the front row than on the back row. Therefore, the roving on the back row of spindles receives slightly more twist than the roving on the front row of spindles. Hence it runs tighter.

In our opinion we feel that your contributor is running his tension too tight on the 2.15 back roving. Or perhaps he does not have the correct lay gear on his frames, which will also affect the tension.

We would suggest that he check his lay, see that it is correct and then change his tension until he has it too slack; then work back from that point. This method is perhaps lacking in technical technique, but he will find—I think—his solutions.

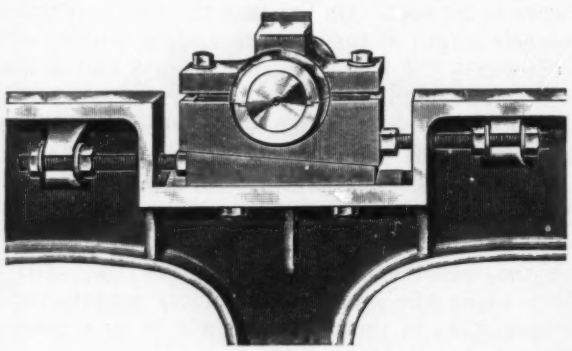
The very fact that the trouble clears up when he changes to 5.00 hank roving proves there is nothing wrong with the frame.

CONTRIBUTOR No. 7217

Card Bearings

EDITOR COTTON:

On certain types of cards the card cylinder is mounted on a shaft which is held in place by a conical bushing on each side. When these conical bushings become loose and work out it becomes necessary to repair this card. If we try to drive the old bushing in, we usually get the cylinder somewhat off center, probably due to wear either on the shaft or the bushing, or both. At times the cylinder is off as much as 1/16-inch. Even if we grind the wire down we have a card with short wire on the high side of the cylinder, and when we have the bushings come loose again, we have practically ruined the wire. On the other hand, if we try to repair the card by inserting a new conical bushing it is practically impossible to center the cylinder; it is usually out about .007-inch, or a little more.



We know that the cylinder should be balanced at all times, and it occurs to us that some of your readers have discovered a way to repair the card, without sending the cylinder back to the manufacturer, which is quite costly.

CONTRIBUTOR No. 7202

Care of Bobbins

THE FOLLOWING information and pointers on caring for bobbins is extracted from the April 1941 "Cotton Chats" published by the Draper Corporation of Hopedale, Mass.:

We know of two mills with a striking contrast in bobbin costs. Both buy quality bobbins.

In five years the first mill, with something over 1600 looms, has bought for regular replacement more than a million and a half bobbins. The annual average was 315,000, or over 190 bobbins per loom per year. The second mill, running on coarser goods and with 250 more looms, buys 100,000 bobbins annually—and average of 52 per loom per year.

Bobbins cost the second mill $8,000 to $10,000 less a year than its neighbor pays.

Evidently there is a chance to save on bobbin cost. Teach your help proper methods of caring for bobbins.

Wood and Its Reactions

Education in the care of bobbins should start with some knowledge of wood and how it reacts to changes of humidity and temperature. Bobbins leave our shop with approximately 8 per cent moisture content—the natural average—maintained all through our process of manufacture. As a rule bobbins pick up about 3 per cent moisture content after a short time in the mill. This usually means an increase of .005-inch in the diameter of the bobbin. If not properly stored or exposed to improper conditions, they will swell or shrink much more, and may warp severely.

Storing Bobbins

Open your cases of bobbins as soon as received and put the bobbins in use, or in proper storage, with each one free to expand or contract with little bad effect. Left in shipping cases or deep bins, pressure of the bobbins one on another causes permanent warping.

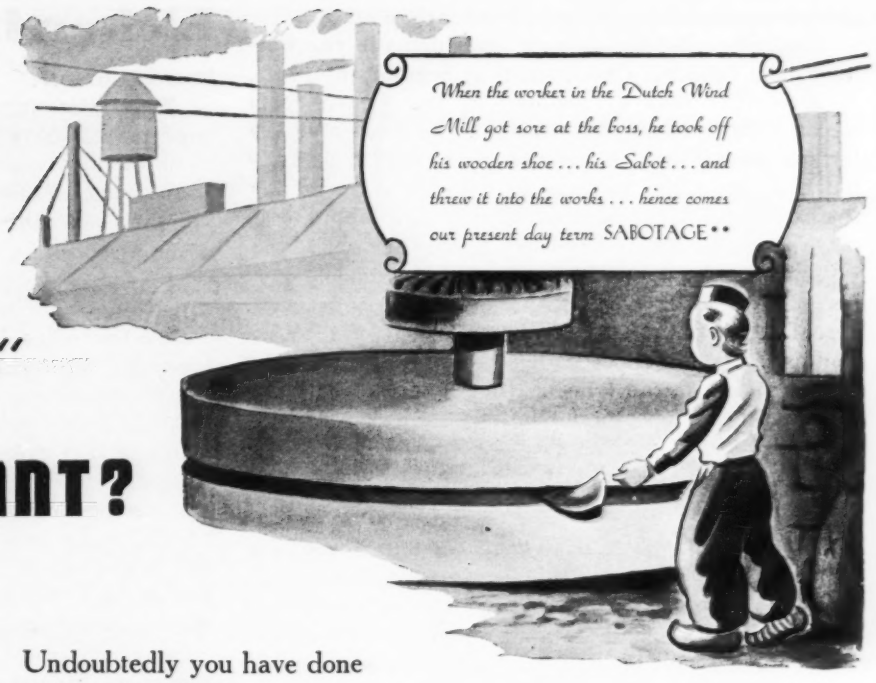
If bobbins could be kept spread on the floor of a room at 70 degrees temperature without artificial heat, it would be ideal. We must approach this as nearly as possible. Hot dry air is as bad as air that is too moist, for bobbins unnaturally dehydrated will swell and warp when exposed to normal weave room humidity. The best practical storage is in shallow bins not over 18-inches deep. Wire or canvas baskets 16 or 18 inches deep are satisfactory if well ventilated and never piled up except with cross-pieces between.

Tips and Butts Battered Up

Damaged and worn tips and butts cause many weaving troubles, particularly from incompleted transfers. Take good care to minimize wear on the ends of the bobbins. It is bad spinning room practice for your doffers to use a board to batter down bobbins on the spindles. Tips are chipped, or broken, or badly worn.

If bobbins are moved from spinning room to weave room in chutes, tips and butts will be dam-

DO YOU TOLERATE "Sammy Saboteur" IN YOUR PLANT?


When the worker in the Dutch Wind Mill got sore at the boss, he took off his wooden shoe . . . his Sabot . . . and threw it into the works . . . hence comes our present day term SABOTAGE**

Undoubtedly you have done all that the FBI has suggested as to ways and means to assure uninterrupted production. C-D suggests that you make sure that an even more subtle Saboteur (Sammy Saboteur) is not present in your plant.

Present in the guise of dilapidated or inadequate material handling hollow ware . . . that seriously interrupt production. Heavy, unbalanced, unsuitable, damaged tote boxes . . . cans . . . or trucks, will definitely slow down your production schedules. Damaged roving, spilled materials, scattered parts, do not build profits . . . or speed up schedules, as "Sammy Saboteur" gleefully knows.

Expel "Sammy Saboteur" from your plant . . . remove him from your pay roll . . . his wages are high . . . he produces nothing . . . he is a sly delayer . . . he seems inoffensive and unimportant but his accumulative sabotage is dangerous to any production schedule.

Write today for your copy of C-D Catalog HW-9 . . . it describes the newly redesigned C-D line of DIAMOND Vulcanized FIBRE Hollow Ware . . . Baskets . . . Boxes . . . Trucks . . . Cans . . . Barrels . . . they will help you expel "Sammy Saboteur" from your plant.

** *C-D will be glad to furnish enlargements of the top illustration to those men desiring to put it on their factory bulletin boards.*

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aged when the drop is too sudden or too long.

Sometimes bobbin-cleaner jaws damage the barrel of the bobbin. Check them at regular intervals.

A serious loss of bobbins in the weave room comes from bobbins that fall on the floor and are left to be stepped on or run over and broken by trucks. Improper boxing of the shuttle, incorrect setting for the transfer or poorly set bobbin disc may be the cause. Have them fixed.

It is a good plan to have your bobbins looked over periodically by someone who is qualified to make a real inspection. In cases we know of, the condition of the bobbins has made a difference of 10 picks in the speed of the looms. Don't let your bobbins become the bottleneck that limits your loom speed.

An Old-Timer Says—

(*Continued from page* 116)

show the up-to-date mill man how ignorant we were in those days. I remember very distinctly writing an article about humidity which was not only criticized but laughed at by many mill men and an editor or two whose ears would burn if I called their names. We had no humidifiers in the carding departments in those days and most mills had none in the spinning and no weave room with more than about one-third as much as they should have had—no humidifier controls at all. Most mills made their own sizing compounds, soaps, belt cements, etc. You can imagine some of the other things without being told.

Well, the article referred to made the prediction, among some other predictions, that mills would be built, some day in the future, with humidity so controlled that it would not be necessary to have any windows or doors open in hot summer weather.

In those days some mills had three processes of pickers, three processes of drawing, and some few used jacks after the speeders to make 30s to 40s yarns. Therefore, the doublings were something like this: 4 laps on intermediates x 4 laps on finishers pickers = 4 x 4 = 16 x 6 doublings at 1st drawing = 96 x 6 doublings at 2nd drawing = 576 x 6 doublings at 3rd drawing = 3,456 x 2 doublings at intermediate fly frames = 6,912 x 2 doublings at speeders = 13,824 —and, believe it or not, sometimes 2 doublings at jacks which made 27,648 in the carding, then 2 doublings on the spinning.

I'll admit this was the exception rather than the rule, but hardly any mill had less than 8,000 doublings to make what we called fine yarns, hence you can imagine the laughs one of the other predictions in that article produced, when it said that future mills would have less than 1,000 doublings.

Yes, OLD-TIMER, *all those things do sound rather absurd today. In fact, how in Heck we got along at all seems almost a mystery, and as you had the experience of going through such a period, what, may I ask, are some of your predictions for what is going to happen in the textile industry in the next 20 or 30 years?*

Oh, no! not on your dear life, JIM. I do not propose to stick out my neck in this progressive age. If I did cut loose you would think Jules Verne was a piker in his predictions.

Licker-in Trouble

EDITOR COTTON:

Your "CONTRIBUTOR NO. 7189", in his question on page 148 of the February issue of COTTON, says that he is having trouble with his lickers-in snatching-in and tearing up screens, and mote knife brackets breaking, since his mill has installed hard point and longer licker-in wire.

It is my opinion that long point or hardened licker-in wire does not lead to the trouble that he suggests, but rather helps in the reduction of costs in maintenance. With this type of wire 12 to 15 years life is not uncommon. When such lickers-in do not have long life it is usually due to metal being fed into them, being set too close, being damaged in handling when cleaning, etc.

I wouldn't worry about an occasional mote knite bracket being broken. I would prefer to have this occur than to have a number of them forced out of correct setting when a lump passes into the licker-in. Quality work is more desirable than poor work for a long period, and the cost of the bracket is small as compared to several thousand pounds of poor work that cannot be corrected after it leaves the card. A broken bracket will let the mote knives fall to the floor, whereas knives that are tilted cannot be seen and not only cause bad work but are dangerous.

It could be that "CONTRIBUTOR NO. 7169" did not try to put the same lickers-in where they belonged after they were re-wound, or else their diameters were reduced in order to turn down the groove to the right depth for the longer wire. He can overcome this difficulty by cutting out a small notch on the extreme ends of the thinner beveled edges so that the edge of the licker-in shroud will not prevent the mote knives from being set to .007-inch.

Some of the causes for lickers-in snatching-in and damaging cylinder and doffer fillets are: Fulcrum arms not resting at the proper point; fulcrum weights too light for the weight laps being run; loose feed roll apron hooks; lap checks not set close enough to feed roll bearings to have the bearing rigid in its running position instead of loose; laps with large lumps in them caused by insufficient fan speed in pickers; laps with one-sided heavy places caused by improperly set dampers or all of air draft going to bottom screen cage in pickers; roving waste not properly reworked and loosened; gudgeons worn on feed rolls; cards not properly leveled; mote knives not set at proper angle (19 to 21 degrees is good tolerance).

CONTRIBUTOR NO. 7230

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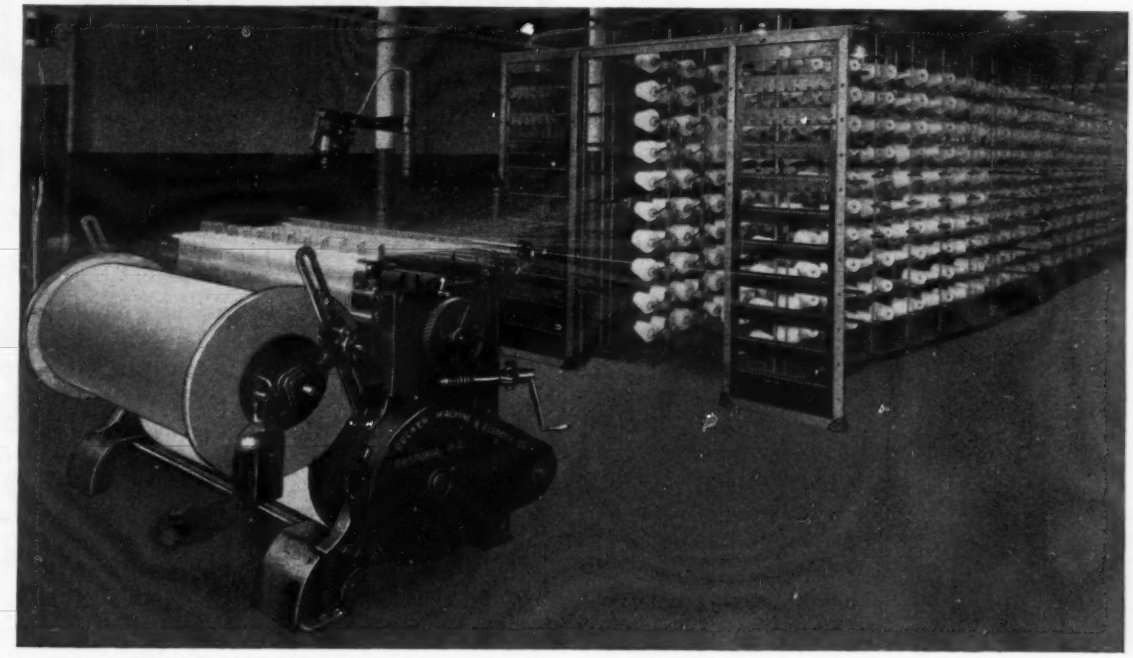
EDITOR COTTON:

Answering "CONTRIBUTOR NO. 7189", who is having trouble with lickers-in snatching-in and breaking mote knife brackets, I suggest that he check the front beaters on his pickers for any possible place for lumps to form, and hang there to let go after they become large. Such places are screw heads. These should be smooth.

If he has a Kirschner lagged beater, he should check the pins to see that they are not hooked. Do not try to straighten them, but pull them out.



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I think this contributor's trouble is lumpy and uneven laps and his lickers-in are just showing it up for him.

It is possible that if the finisher beater is a blade beater it is set off too far from the feed roll and it is knocking lumps into the lap. Too, his card roll weights could be too light.

CONTRIBUTOR NO. 7231

Spinning Winds

EDITOR COTTON:

There was much discussion at the meeting of the Textile Operating Executives of Georgia, held in Atlanta, Ga., March 15, concerning combination and warp wind on spinning. Readers wishing to review this may find the discussion at the bottom of page 81 in the April issue of COTTON and on pages 82 and 83 in the same issue, in the report of the meeting.

I do not think it was clear to everyone at the meeting about combination and warp wind on spinning, and as I did not give my experience on it, I am taking this opportunity to do so.

I was working in a mill several years ago and we put in Barber-Colman spoolers. We were on combination wind, using a bobbin former to get the required amount of yarn on the bobbin. However, we were getting around 18 per cent tailings on spooling and wanted to reduce our tailings, so we put a few frames on warp wind and reduced tailings to 8 per cent.

Our spoolers were running 1,200 yards per minute, and I, for one, don't believe that any mill can run combination wind on spoolers running 1,200 yards per minute or above without having at least twice more tailings at the spoolers.

Of course, every overseer had rather run filling wind or combination wind than warp wind, but there are several things that enter into the picture of these different winds. One is the efficiency of the spinner. She can run more sides on filling wind than on combination or warp wind because she has only about two inches of surface to find broken threads, and on the other types of winds she has almost the entire length of the bobbin to find broken threads. This will slow her up.

As far as there being more ends down per 1,000 spindle hours, I have never found this to be true, for I put on a heavier traveler when I went to combination wind, and a still heavier one when I begin to use the warp wind, so the only thing I see that we can do as overseers is to keep on praying that some day Barber-Colman will make it possible for us to go back on our filling wind.

I believe several men have had the same experience as I have had on these different winds, and I would like to hear from someone that is running combination wind that has his tailings down to 8 per cent on spoolers that are making 1,200 or more y.p.m.

My yarn numbers were 30s and 40s, 8-inch bobbin, 7-inch traverse, 1¾-inch ring, front roll speed on 30s 125 r.p.m., and on 40s 108 r.p.m., spindle speed on both 9,800 r.p.m.

CONTRIBUTOR NO. 7229

Part of Card Controlling Strips

THE FOLLOWING answers are to the question of "CONTRIBUTOR NO. 7045" on page 114 of the June 1940 issue of COTTON. This contributor asked, "What part of the cotton card controls the amount of strips taken out by the top flats? In answering, please state if too wide a setting of the part causes heavy or light flat strips."

EDITOR COTTON:

The upper end of the front knife plate controls the strips taken out by the top flats. The knife plate set close to the cylinder decreases the top flat waste; the knife plate set close to top flats increases the top flat waste. When you set the knife plate close to the cylinder you have wide setting between the knife plate and the top flats. When you set the knife plate close to the top flats you have a wide setting between the knife plate and the cylinder.

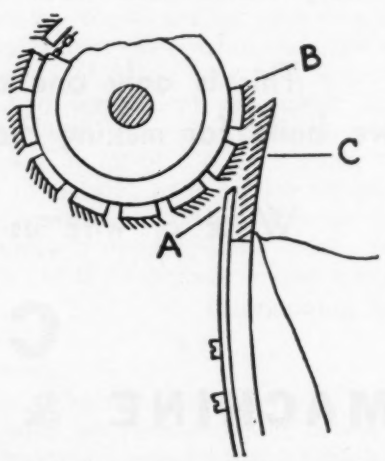
CONTRIBUTOR NO. 7065

EDITOR COTTON:

I am glad to have the opportunity of answering the questions pertaining to the part of card that controls amount of strips removed because I want to prove that the stripping plate on the cotton card does not receive the attention it should in almost all cotton mills, and I also wish to prove that by neglecting the front knife plate that much good fiber, instead of following the cylinder and onto the doffer, passes over the knife

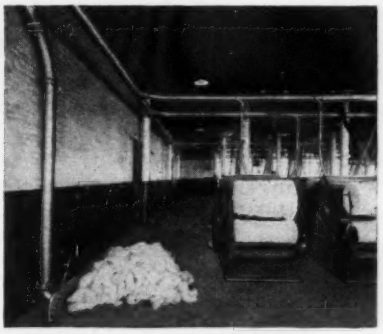
My answer to the question of "What part controls amount of strips" will be the front knife or stripping plate. The wider the setting to a degree of its fartherest point from the cylinder, the heavier the strips.

By referring to the accompanying sketch, please consider the direction the wire point on both the flats



and the cylinder. "A" is the front knife plate, "B" the flats and "C" the cylinder. At "B" it can be seen that the heel of the flat is closer to the cylinder than the toe, an average difference of about .003-inch. The space is there for the collection of all foreign matter, and the best of the cotton is drawn through the wires and receives a combing at each working flat, but of

700 mills, both cotton and wool, find that



Showing cards equipped with Abington Vacuum Stripping. At left foreground is conveyor for flat strips.

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The Abington Vacuum System strips cards at 60% to 90% savings, adding about 4% production on cotton, and often giving increases equal to an extra set of woolen cards. Many mills also utilize the System to collect process waste from cards, pickers, combers, etc., with great advantages in cost and cleanliness.

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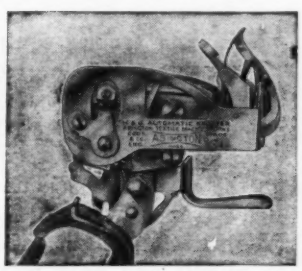

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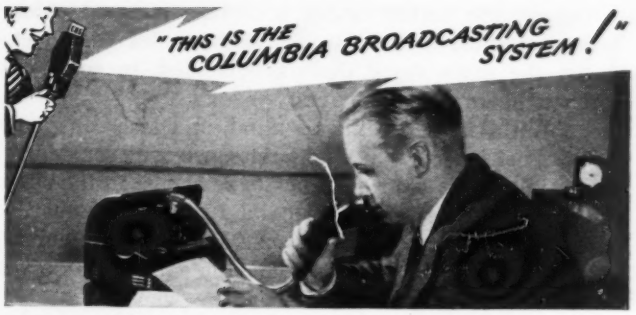

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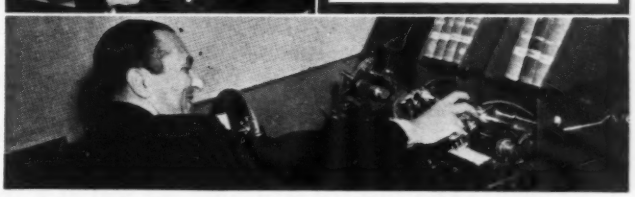

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course, the action causes a certain mass of stock to be imbedded in the flat, and the heavier the sheet of lap the more stock that is imbedded, in some cases past the knee of the wires.

With the foregoing in mind, and also considering the position of the wire points, we will consider the setting of the front knife plate as shown in the sketch, which is at its fartherest point from the cylinder. In such a case, owing to this open space, the air currents are not as strong, and second, the same grip between the plate and the cylinder does not exist as when closed. That is why most builders advocate light, fast carding so as to keep the fibers on the ends of the wires on both the cylinder and flats.

Let us picture a few fibers of cotton hanging from the flat next to flat "B" (in illustration). The long fibers being imbedded with the foreign matter are stronger than the air currents, so instead of following the cylinder they pass over the knife plate to the flat stripping comb. Give this plate your attention by making the following test: Remove the stripping comb out of action. Remove the flat strip with the fingers and hold the strip at a window and you will see one-half of the strip is composed of foreign matter and the other half of good stock; it is then you will realize that by setting this plate properly much money can be saved.

Next, we will picture the front knife plate set as close as it should be. Then the space between the plate and the cylinder is reduced, the air currents are made stronger, and the plate has a firm grip on almost all fibers. Therefore, when the plate is set close, the longer fibers are drawn away from the flat by the air currents and are pulled from the flat by the grip of the knife plate.

In the case of a heavy sheet of lap and a very strong stock, it often happens, because the longer fibers are imbedded, that the foreign matter also is pulled from the flat, leaving the flat clean before reaching the stripping comb, which is the strongest argument against using a heavy sheet of lap.

I could never understand why the men at the helm of fine goods mills allow this waste of good fibers to continue. As a rule the strippings are sold at a very low cost, and in most cases this is high grade stock.

I hope the reader can see that by giving continued attention to the setting of the stripping plate the overseers can easily save their salary.

But what is the research department doing about this?

WASH (R. I.)

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EDITOR COTTON:

In reply to the two questions on the part of the cotton card controlling card strips, I would like to submit the following answers:

The part of the cotton card that controls the amount of strips taken out by the top flats is called the front knife plate. It is by setting the upper end of this front knife plate that we increase or decrease the amount of flat strips taken out by the top flats.

Within certain limits, the closer we set the upper end of the front knife plate to the cylinder of the card, the less, or lighter, flat strips we will take out, and the wider the setting used the heavier the flat strips.

Under ordinary operating conditions the setting for the upper end of the front knife plate to the cylinder is from a maximum of .034-inch to a minimum of .017-inch with .022-inch being considered an average setting.

The lower edge of this front knife plate is also set to the cylinder of the card but its main function is to control the air currents so they will not disturb the cotton on the cylinder of the card. The limits for setting the lower edge of the front knife plate to the cylinder are from .034-inch to .022-inch with .029-inch considered an average setting.

CONTRIBUTOR NO. 7066

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Placing Roll Weights

EDITOR COTTON:

The question regarding the graduation of drafting roll weights asked by "CONTRIBUTOR NO. 7176" on page 172 of the March issue of COTTON, is highly controversial, particularly on drawing frames. This difference of opinion can usually be traced to the variables which make it hard for two men to compare their set-ups unless they have identical organizations, speeds, types of rolls, etc. A mill making a 70-grain card drawing sliver on drawing frames equipped with metallic top rolls could not expect to find a mill making a 50-grain combed drawing sliver on frames equipped with cushioned top rolls to use the same graduation of roll weights.

Tests indicate that on drawing frames equipped with metallic top rolls, the weights should be graduated with the *lighter weights on front*, the *heavier weights* on the back. This is probably due to the fact that the large bulk of sliver in the back must be crimped into the fluted surface of the roll; as the bulk is reduced by the drafting action, crimping is more easily accomplished requiring less weight toward the front.

For drawing frames equipped with cushioned top rolls the reverse seems to give a more even sliver, i.e., the *heavier weight on front, lighter weights on the back*, due to the higher speeds of the front rolls and the fact that cushioned top rolls do not have the firm grip on the stock that is found with metallic top rolls.

On fly frames we find that we get better roving with the heaviest weight on the front, lighter weights on the middle and back rolls. This seems to check with results of experiments on drawing frames with cushioned top rolls, where we found that it was necessary to use the heavier weights on the rolls which did the most drafting.

In brief, it would seem that the best rule to follow would be:

On metallic rolls always use the lighter weights on the front, heaviest weights on the back. On cushioned top rolls always use the heavier weights on the front, lightest weights on the back.

While the foregoing information is given as our conclusion in regard to this matter, we are by no means submitting it as a hard and fast rule to follow. We do feel, however, that it will hold true in most instances.

CONTRIBUTOR NO. 7205

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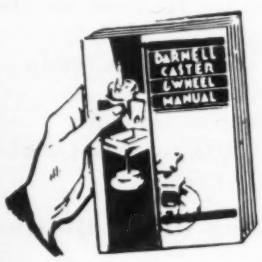

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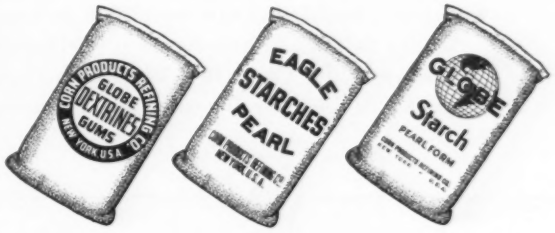

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Loom Fixing Notes

Cause of Filling and Rough Goods

1. Not enough tension on the goods.
2. Shed closes too late.
3. Filling catches on the filling fork or on the shuttle bar.
4. Center stop motion is out of order.
5. Shuttles rebound in boxes.
6. Knots in warp.
7. Shed closes early.
8. Not enough tension on the warp.

Uneven Goods Caused by Filling

1. Pick wheel is loose.
2. Take up ratchet is out of order.
3. Too much tension on the warp.
4. Too much tension on the filling.
5. Filling fork is too heavy or does not engage into the rake properly.
6. Whip roll too high or too low.
7. Warp tension ropes or chains do not let off evenly.
8. Loose beam heads.
9. Shed is too large.
10. Reed has too much play.
11. Reed does not slide sideways in the reed frame [On certain types of fabrics.]
12. Tension rings or porcelain eyes in the shuttle are cracked or broken.
13. Loom weights touch the floor.
14. The harness set unevenly and the shed therefore is uneven.
15. Lay is loose in its bearing.
16. Filling is uneven.
17. Loom picks early or late.

Causes of Repeat Stripes

1. The shafts are uneven, giving an uneven shed opening.
2. Harness shafts are too tight.
3. The shed is too high.
4. The harness is too close or too far from the reed frame.
5. Too much tension on the warp and the filling.
6. Uneven tension on the warp.
7. Whip roll is higher or lower on one side.
8. One shaft in the harness lifts somewhat higher than the others.

Causes of Filling Pulling Off of Quills

1. Loom picks too hard.
2. Loom picks early or late.
3. Shuttle rebound.
4. Shuttle box set too tight.
5. Porcelain eyes are broken.
6. Broken prongs on filling fork.
7. Filling fork engages too far into the fork rake.
8. Picker broken or worn.
9. Filling catches on filling fork, shuttle box or picker.
10. Too much tension on the filling.
11. Quills are soft or too hard.
12. Boxes are set too high or too low.

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4. HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

PLANT AND PLANT MAINTENANCE . . .

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104. FENCE FACTS—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence.—PAGE FENCE ASSOCIATION, Bridgeport, Conn.

105. DULUX — THE WHITE FINISH THAT STAYS WHITE—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays white, stays cleaner and stands repeated washing.—E. I. DU PONT DE NEMOURS & CO., Finishes Division, Wilmington, Del.

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114. Hard Maple Flooring—Featuring close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for architects, builders and others when considering flooring grade requirements. —MAPLE FLOORING MFRS. ASSN., Chicago, Ill.

115. ATOMIZER HUMIDIFIERS—Recent issue of "Parks' Parables" on atomizer method of humidification. Bulletin 1140. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

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222. NEEDLE AND BALL BEARINGS—Catalog 404 gives ball bearing data with data on selection of proper bearings; Catalog 22 outlines use of needle bearings, including textile uses, types, installation, lubrication and general data. Both issued by TORRINGTON CO., Torrington, Conn.

225. LEATHER BELT DRIVES — Clear, concise non-technical descriptions of short-center pivoted motor leather belt drives with easily used drive selection tables, other pertinent data. — SOUTHERN BELTING CO., Atlanta, Ga.

225. BRONZE BEARINGS—64 page catalog of standard sizes of textile and industrial bearings, graphited oil-less bearings, bronze bars, babbitt metals.—THE BUNTING BRASS AND BRONZE CO., Toledo, O.

226. BRONZE BARS — Catalog of hundreds of sizes of precision machined bearing bronze bars stocked by mill supply houses. — THE BUNTING BRASS AND BRONZE CO., Toledo, O.

227. MULTIPLE GROOVE V-BELT DRIVE DATA BOOK—Complete book showing many drive combinations for easy selection with engineering information for figuring special V-Belt drives. No. 915.—ROCKWOOD MFG. CO., Indianapolis, Ind.

228. MOTOR SWITCHES AND STARTERS—Bulletins covering Combination magnetic switch, mercury-button limit switch, magnetic motor starter, limit switch with snap-action.—GENERAL ELECTRIC CO., Schenectady, N. Y.

229. LUBRIPLATE FILM—Data on lubrication with Lubriplate applications, both grease and fluid types. Bulletin 12-40.—FISKE BROS. REFINING CO., Newark, N. J.

230. PRINCIPLES OF TEXTILE MILL LUBRICATION—Booklet giving specific lubricating problems and data on practical textile operation, including advice on uses of various oils and greases.—TIDE WATER ASSOCIATED OIL CO., New York, New York.

231. V-BELT ENGINEERING DATA BOOK—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

232. SKF INDUSTRIES SPHERICAL ROLLER BEARINGS—36 page catalog on bearing applications and selection, also time saving computations.—SKF INDUSTRIES, INC., Philadelphia, Pa.

233. SPEED CONTROL HANDBOOK T-35—New reference book on variable speed control, said to be the most complete and helpful book on this subject ever published. 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic.—REEVES PULLEY CO., Columbus, Ind.

234. HYATT ROLLER BEARINGS ON TEXTILE MACHINERY OF ALL KINDS—34 page booklet which describes and illustrates how Hyatt bearings are being applied to textile machinery.—HYATT BEARINGS DIVISION, General Motors Corp., Harrison, N. J.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

237. FAFNIR BALL BEARINGS FOR THE TEXTILE INDUSTRY—Outlining the applications and advantages of ball bearings on textile machinery.—FAFNIR BEARING CO., New Britain, Conn.

238. DESIGN OF V-BELT DRIVES—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive.—THE GATES RUBBER COMPANY, Denver, Colorado.

239. SKF Better Spinning and Twisting—16-page catalog containing technical information relating to construction and performance of SKF roller bearing spindles, tension pulleys, guide and idler pulleys and miscellaneous pulley and bearing applications.—SKF INDUSTRIES, INC., Philadelphia, Pa.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

302 LUNKENHEIMER CATALOG 78—136 page catalog describing a complete line of Bronze, Iron and Steel Valves, Boiler Mountings, Lubricating Devices, Air Devices and other specialties. Also included is a section on the thermo-dynamic properties of steam, and a table of shipping weights.—THE LUNKENHEIMER CO., Cincinnati, Ohio.

304. MORTON NICKEL IRON QUICK OPENING HANDLE GATE VALVE—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Manufactured in nickel, stainless steel and stainless steel trim.—MORTON MACHINE WORKS, Columbus, Georgia.

306. TEMPERATURE CONTROLLERS — 48-page illustrated Bulletin 225, describing instruments and accessories essential for efficient dyeing, finishing, slashing, mercerizing, kier boiling, and other processes involving temperature.—THE FOXBORO COMPANY, Foxboro, Mass.

307. THERMOMETERS AND PRESSURE GAUGES—Catalogs 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—BROWN INSTRUMENT COMPANY, Philadelphia, Pennsylvania.

308. THE BROWN MOIST-O-GRAPH — 16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns.—THE BROWN INSTRUMENT COMPANY, Philadelphia, Pa.

CARDING, SPINNING, WINDING, ETC. . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC OVERHEAD CLEANER FOR SPINNING, WINDING, WARPING AND TWISTING—24 page booklet showing the new American Mono-Rail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner prevents accumulation of fly with no harm to roving.—THE AMERICAN MONORAIL COMPANY, Cleveland, Ohio.

403. SACO-LOWELL COTTON MACHINERY—TWISTING—A 36 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. — SACO-LOWELL SHOPS, Boston, Mass.

404. SACO-LOWELL COTTON MACHINERY—SPINNING—The second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. — SACO-LOWELL SHOPS, Boston, Massachusetts.

405. YARN CONDITIONING AND TWIST-SETTING—Tenesol booklet on new conditioning agent for textile yarns.—BURKART-SCHIER CHEMICAL COMPANY, Chattanooga, Tenn.

406. CORK—THE MODERN ROLL COVERING—Attractive booklet outlining the uses and advantages of cork for textile roll covering. — ARMSTRONG CORK PRODUCTS CO., Industrial Division, Textile Products Section, Lancaster, Pa.

407. CARD GRINDER INFORMATION—Folder on care of card grinders, part replacements, etc.—B. S. ROY & SON CO., Worcester, Mass.

408. THE BOWEN SPINNER'S RECORD BOOK—Handy leather bound notebook which contains a world of useful information as well as tables for keeping accurate spinning data.—U. S. RING TRAVELER COMPANY, Providence, R. I.

410. FIBRE CONDITIONING WITH TEXSPRAY COMPOUND—30 page booklet on treating of cotton or cut staple fibers with Texspray Compound including the advantages and development of fiber conditioning.—THE TEXAS CO., New York City.

411. THE VICTOR CIRCLE-D TRAVELER—Pamphlet describing this important advance in traveler design.—VICTOR RING TRAVELER COMPANY, Providence, R. I.

412. TENSOMETER — Leaflet describing the Tensometer—the new handy device for testing the tension in warping, winding and quilling. — SIPP-EASTWOOD CORP., Paterson, N. J.

413. SONOCO PRODUCTS—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc.—SONOCO PRODUCTS CO., Hartsville, S. C.

416. BRIEF SAGA OF THE RING TRAVELER—Interesting history of development of ring spinning in connection with cotton manufacturing. — NATIONAL RING TRAVELER CO., Providence, R. I.

Continued on Page 130

Continued From Page 129

417. PRECISION WINDING FOR SILK AND RAYON YARNS—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. — UNIVERSAL WINDING CO., Providence, R. I.

418. FIDELITY SPOOLING MACHINES — Illustrated booklet describing the Fidelity Spooling Machine and outlining its many applications in the textile industry. — FIDELITY MACHINE COMPANY, Philadelphia, Pa.

WEAVING, SLASHING . . .

501. EIGHT QUESTIONS — Booklet of printed forms to assist mill in comparing efficiency and economic worth of new looms against older ones.—CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass.

502. TEXTILE COUNTERS—Catalog T37 describing pick counters for looms, hank counters for spinning, yardage counters for cloth loom, etc.—VEEDER-ROOT, INC., Hartford, Conn

503. HARNESS, HEDDLES AND REEDS—8 page illustrated booklet on steel heddles, harness frames, mail-eye harness, jacquard heddles, etc.—EMMONS LOOM HARNESS CO., Lawrence, Mass.

504. TEXTILE LEATHERS—Catalog of complete line of leather products for looms, condensers, gill boxes, combs. Including G & K "Hairitan."—GRATON & KNIGHT, Worcester, Mass.

506. NOTES ON EXSIZE—Attractive new booklet describing the use of Exsize for desizing fabrics. Included is a review of general sizing and finishing and a flow chart showing the cotton and rayon finishing processes.—PABST SALES COMPANY, Chicago, Ill.

507. WARP SIZER FOR SPUN RAYON—12 page booklet illustrating latest methods in sizing rayon staple.—CHARLES B. JOHNSON MACH. WORKS, Paterson, N. J.

508. SIZING AND FINISHING — A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing.—STEIN, HALL & CO., INC., New York City.

509. ARCY—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. —DRAKE CORPORATION, Norfolk, Va.

510. THE ROMANCE OF PRAIRIE GOLD—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

511. HOUGHTO SIZE SR — Leaflet describing a new sizing compound for spun rayon warps which provides high breaking strength, greater elasticity and increased weave-room production at low cost.—E. F. HOUGHTON & CO., Philadelphia, Pa.

512. CARO-GANT — The Original 100% Active Warp Dressing. Attractive folder describing Caro-Gant, the Warp Dressing that makes stronger, more elastic warps with a maximum breaking strength and a minimum reduction in elasticity.—HART PRODUCTS CORP., New York City.

DYEING, FINISHING, CLOTH ROOM . . .

601. SANFORIZING MACHINERY — Illustrated booklet describing the sanforizing machinery offered by the TEXTILE FINISHING MACHINERY CO., Providence, R. I. This bulletin is available only to finishing plants or executives thereof.

602. ALUMINUM IN THE CHEMICAL INDUSTRY—Published by Aluminum Company of America. Fifty-two pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses.—ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

603. THE MORTON SYSTEM—Illustrated literature describing the Morton Improved double circulating raw stock dyeing and bleaching machine, the Morton horizontal revolving beam and package dyeing machine and beam bleaching machine, the Morton vertical package and roving dyeing machine.—MORTON MACHINE WORKS, Columbus, Ga.

604. THE NEW PROCTOR AUTOMATIC YARN DRYER—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

605. BUTTERWORTH ELECTRIC GUIDERS — 6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider.—H. W. BUTTERWORTH & SONS CO., Philadelphia, Pennsylvania.

606. SLITTERS AND ROLL-WINDERS — 8 page folder illustrating more than 25 types of slitters and roll-winders for textiles. Form CF-640.—CAMERON MACHINE CO., Brooklyn, N. Y.

607. GENERAL ELECTRIC EQUIPMENT FOR TENTERS—Folders including drive and control, guider equipment, welt-straightening controls—providing means of finishing cloth of uniform quality.—GENERAL ELECTRIC CO., Schenectady, N. Y.

608. TEXTILE MACHINERY FOR WET FINISHING—"Tru-Shade" Catalog No. 539—Gives data on dyeing machines including "Curve of Strength Construction." — RODNEY HUNT MACHINE COMPANY, Orange, Mass.

609. ROLLS AND REELS—Catalog No. 740—Gives data on "Shaf-tite" roll construction to eliminate loose shafts. Also data on reels.—RODNEY HUNT MACHINE COMPANY, Orange, Mass.

DYESTUFFS, CHEMICALS, SOAPS . . .

704. THE TEXTILE APPLICATION OF METASOL (CALGON)—Handbook with detail information covering the use of Metasol in Scouring, Bleaching, Dyeing and Finishing.—BURKART-SCHIER CHEMICAL CO., Chattanooga, Tenn.

707. THICKENING MATERIALS FOR TEXTILE PRINTING—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine.—STEIN, HALL & CO., INC., New York City.

709. CAUSTIC SODA BULLETIN — A data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas.—PENNSYLVANIA SALT MFG. CO., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

711. KEY PRODUCTS FOR TEXTILE INDUSTRY—22 page leaflet describing textile specialties used in dyeing, bleaching, and finishing as applied to Southern textile industry from Southern plants of AMERICAN CYANAMID & CHEMICAL CORP., Charlotte, N. C.

712. STANDARD SILICATE ALKALIES—Booklet on silicate of soda for kier boiling, bleaching, water treatment, etc., giving tables for specific gravity, temperature correction, tank capacity.—STANDARD SILICATE DIV., Diamond Alkali Co., Pittsburgh, Pennsylvania.

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715. AQUAROL AND ARKANSAS PRODUCTS—Bulletins on Aquarol, water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and rayon, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

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720. AVITEX—Bulletin 2B—Describes the varied uses of textile finishing agents. Includes extensive experience in the field. Designed for practical working conditions covering cotton, wool, rayon, silk and linen mill applications.—Fine Chemicals Division, E. I. DU PONT DE NEMOURS & COMPANY, INC., Wilmington, Del.

721. DYES—A FEW FACTS ABOUT THEIR USES AND PLACE IN AMERICAN INDUSTRY—Booklet covering history, research developments and industrial applications of dyestuffs, with 24 questions and answers to users and consumers of dyes.—Dyestuffs Division, E. I. DU PONT DE NEMOURS & CO., INC., Wilmington, Del.

722. LUPOSEC — Leaflet describing Luposec, a waterproofing agent with great stability; soluble in cold or warm water at all temperatures; suitable for all fibers and especially effective in splash-proofing silk hosiery.—JACQUES WOLF & CO., Passaic, N. J.

723. RHOPLEX RESINS—Attractive folder discussing the outstanding properties of these Aqueous Dispersions with suggestions for their application to textiles.—ROHM & HAAS CO., Inc., Philadelphia, Pennsylvania.

725. THE APPLICATION OF SOAPS AND SOAP PRODUCTS TO TEXTILE PROCESSING—40-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. — COLGATE-PALMOLIVE-PEET COMPANY, 105 Hudson St., Jersey City, N. J.

726. WETSIT—Leaflet describing Wetsit, a synthetic aromatic compound with excellent surface tension reducing properties; gives rapid wetting out and thorough penetration; available in three strengths.—JACQUES WOLF & CO., Passaic, N. J.

727. THE ONYXSANS—24 page book describing the application of cation active permanent softeners in textile processing and finishing plants.—ONYX OIL & CHEMICAL CO., 15 Exchange Place, Jersey City, N. J.

728. SURFAX W.O.—Leaflet describing a new surface-active chemical which possesses unusual wetting out and softening properties.—E. F. HOUGHTON AND COMPANY, Philadelphia, Pa.

KNITTING . . .

801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

802. RULER AND CONVERSION TABLE—Converting decimals of inch to millimeters or vice versa. Useful to knitting mills. — THOMAS & SKINNER STEEL PRODUCTS CO., Indianapolis, Ind.

803. THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., York and Cedar Sts., Philadelphia, Pa.

804. FULL-FASHIONED HOSIERY MANUFACTURE—Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery.—GULF OIL CORPORATION, Pittsburgh, Pennsylvania.

806. DEPENDABLE FINISHING FOR MODERN ELASTIC TOP HOSIERY—Describing and illustrating equipment for basting and attaching insert elastic, attaching wide or welt elastic and seaming elastic in women's hosiery.—UNION SPECIAL MACHINE COMPANY, Chicago, Ill.

807. CIRCULAR KNITTING MACHINES—A fifty two page illustrated booklet containing valuable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, selvage welt, loose course and methods of laying in Lastex.—FIDELITY MACHINE COMPANY, Philadelphia, Pa.

808. THE SUPERLOCK—FORM 828—An attractive two-color illustrated 6-page folder describing the "Fastest Overseaming Machine in the World."—WILLCOX & GIBBS SEWING MACHINE CO., New York City.

SEWING MACHINES . . .

902. SEWING MACHINES — Illustrated technical booklets on high speed lock-stitch sewing machines for all types of work.—SINGER SEWING MACHINE CO., New York City.

903. FORM 495—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by UNION SPECIAL MACHINE CO., Chicago, Ill.

904. FORM 769. CONDENSED CATALOG—A 40 page pocket size booklet illustrating and describing sewing machines adaptable for practically all phases of the needles trade.—WILLCOX & GIBBS SEWING MACHINE CO., 658 Broadway, New York City.

MATERIALS HANDLING . . .

1001. HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY—Illustrated folder including elements of materials handling system, preparation of simple layout.—CLEVELAND TRAMRAIL DIVISION, Wickliffe, O.

1002. CATALOG NO. 22—An attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. —MEESE, INC., Madison, Ind.

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1004. MILL BOXES, TRUCKS AND ROVING CANS—36 page illustrated catalog on Diamond vulcanized fibre hollow ware for textile use.—No. HW9. —CONTINENTAL DIAMOND FIBRE CO., Newark, Delaware.

1006. LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. HOW HANDLING PROBLEMS HAVE BEEN SOLVED—A 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes.—AMERICAN MONORAIL COMPANY, Cleveland, Ohio.

1009. TRUCK CASTERS AND WHEELS—24 page illustrated catalog covering casters and wheels for all truck use with specifications. — THE FAIRBANKS COMPANY, New York City.

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MISCELLANEOUS . . .

1101. UNBRAKO SELF-LOCKING HOLLOW SET SCREW—Bulletin Form 532 includes illustration and descriptive matter of this latest improvement in socket and screws. This bulletin also features the complete line of "Unbrako" Socket Screws.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1102. REPAIR PARTS FOR TEXTILE MACHINERY—36 page booklet and catalog on replacement parts for opening, picking, carding, spinning and twisting machinery. — HENDERSON FOUNDRY & MACHINE CO., Hampton, Ga.

COTTON, Grant Bldg., Atlanta, Ga.

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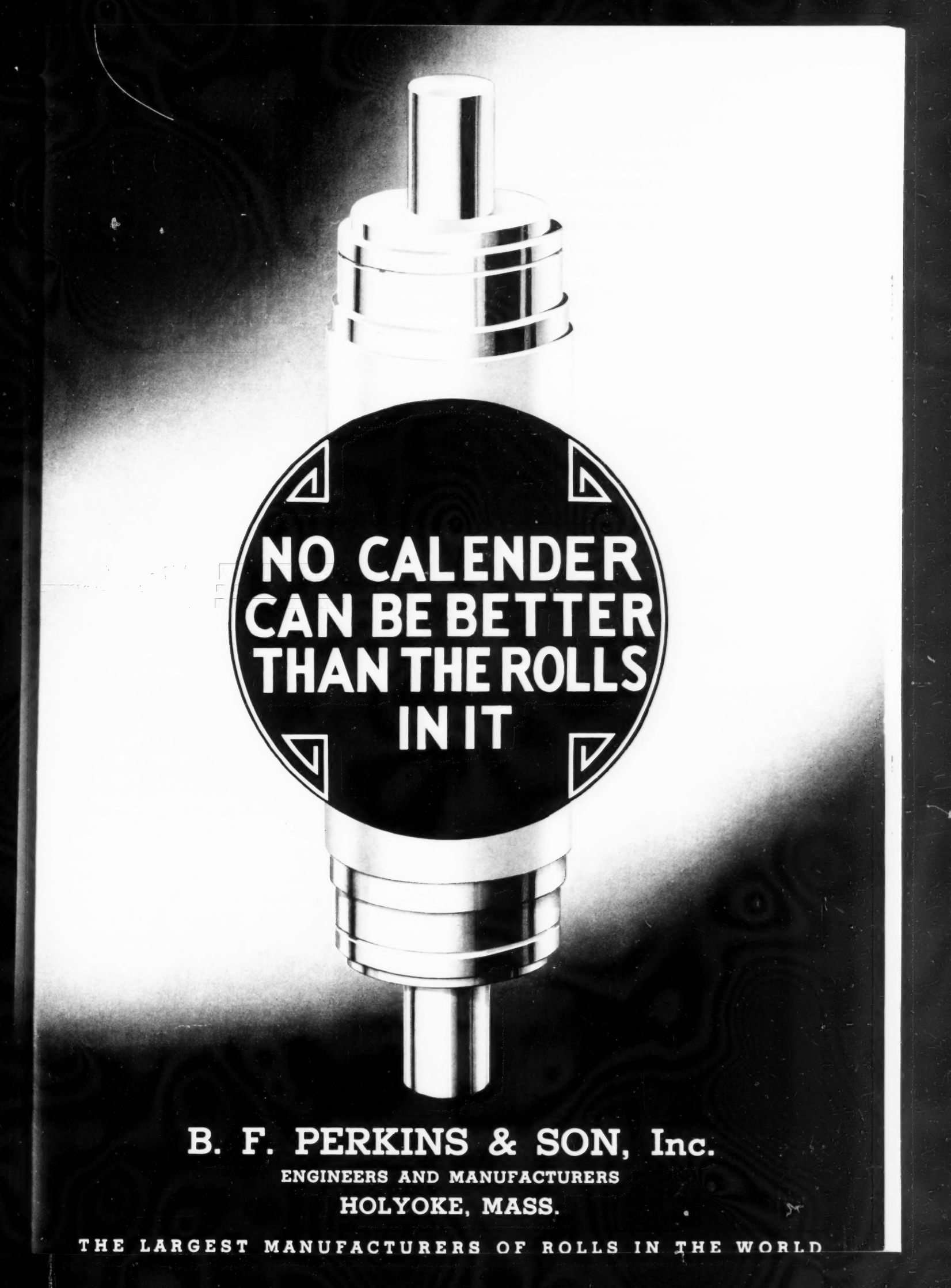

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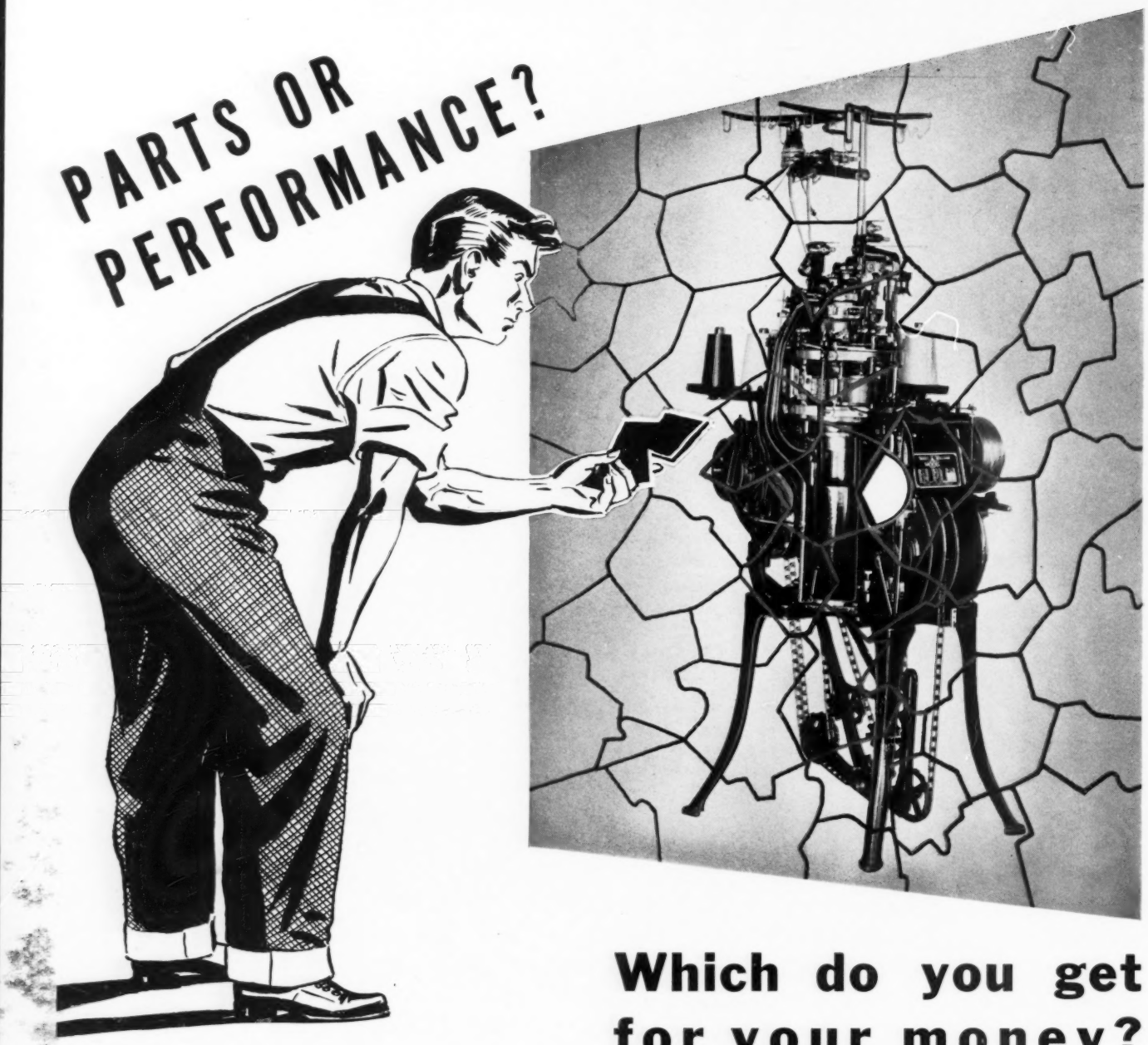

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Increased percentages of rejects . . . *decreased* output . . . what a price to pay for repairs made with cheap substitute knitting machine parts! Of course, you may save a few dollars at the time . . . but what happens when the machines begin to roll again is the real test of your money's worth.

Actually, you will find you can't afford anything but genuine S & W factory-made part replacements. Your Scott & Williams knitting machines are highly complex, precision engineered and built. All the important design, metallurgical, tooling and other factors that have gone into making each S & W part exactly right for its particular job is too much for you to expect your local machinist to be able to duplicate. And . . . there is no expediency to be served by doing so. All the 55,400 S & W standard part replacements are no further away than a telephone, telegraph, or teletype order to the Scott & Williams factory. Repair part orders receive prompt right-of-way attention by our stockroom staff . . . an important thing to remember in times like these when every minute counts. Teletype service is FREE from our High Point and New York Offices.

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KNITTING SECTION

Knitter Co-operation

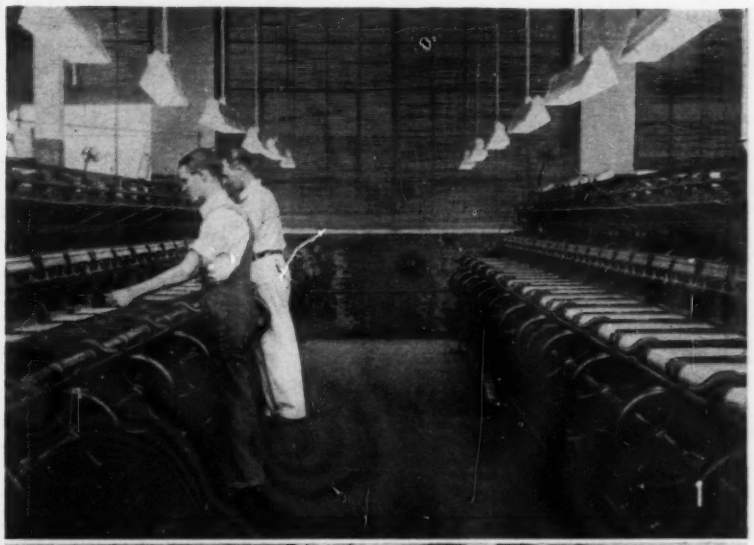
WOULD you like to get an extra dozen hose per machine on each shift? To a full-fashioned knitter this will mean from 12 to 14 per cent increase in earnings, and to management a reduction in overhead expenses.

This can be done by knitter co-operation. The accompanying illustrations will show the proper method of operating two machines in the same aisle, having the machines run with the fabric at different operations so that each knitter can assist his aisle partner at the time when his own machine does not need his attention.

The set-up of the machines to accomplish the foregoing is shown in Photo No. 1. The machines are so timed that one machine is ready to enter splicing immediately after the opposite machine has entered main silk. The secret of getting additional production is that each knitter helps his aisle partner to get the sets started, doing half the work, such as inserting bars and hooking them up, turning welts, and taking off the sets—the three main "stop" operations in running a full-fashioned knitting job.

To help with these three operations and to do half of the work, the legger on the opposite machine must be free at the time when his partner has his own machine stopped. Photo No. 1 illustrates this perfectly. Here we see one machine in the lower part of the leg fabric, almost ready to enter splicing, and still running. This machine is knitting the lower leg fabric while both knitters are turning welts on the opposite machine.

Note that each knitter is turning about half the welts, thereby giving full co-operation, and not just half-hearted helping by turning only a few, and then having to quit to attend his own machine.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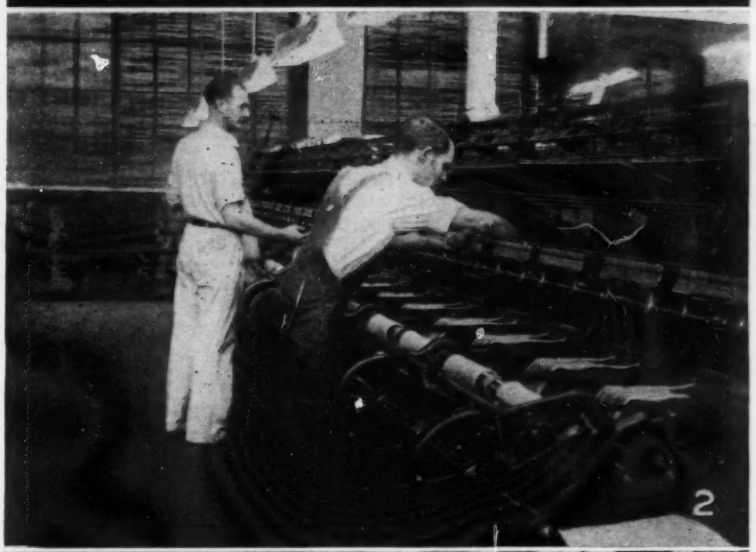
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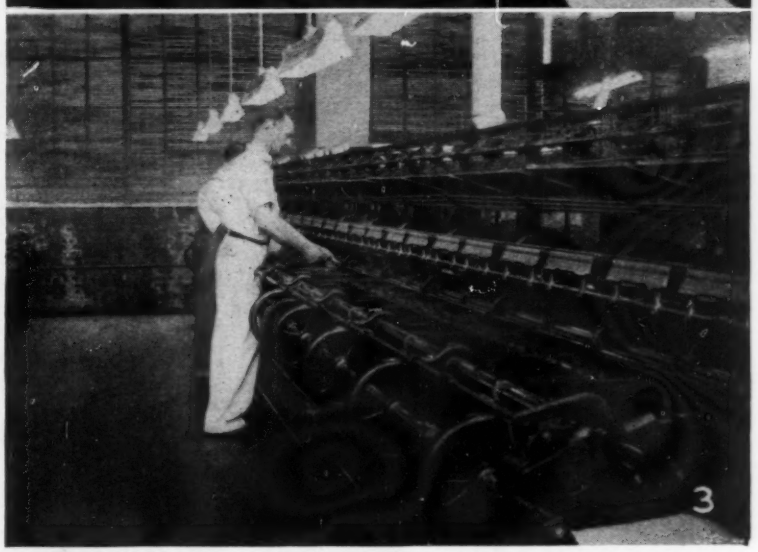

3

COTTON staff photos

Photo No. 2 shows the two knitters taking-off the set, and here again each knitter does half of the work. After the ends are racked out and threads broken, one knitter collects the stockings while the other is getting the machine ready for the next set. There is no lost motion because the opposite machine is knitting the leg fabric.

Photo No. 3 again shows how each legger does half of the work. In this picture the knitters are starting the set, hooking-up welts.

Looking at Photos 1 and 2, we can see how perfect unison must exist. Knitters start from the ends of the machine and work toward the center, cooperating perfectly, each doing half of the work and then working again out toward the end. While both knitters are working on one machine, the other machine is always in operation knitting the leg fabric. This takes from 14 to 16 minutes on most styles.

With the knitting of the leg fabric requiring from 14 to 16 minutes, and the welt turning operation by one knitter requiring five minutes, two knitters that co-operate can do this in two and a half minutes. Taking off set and starting the next one requires five minutes by one knitter, but with the partners co-operating it can be done in less than half the time because there is no need for the knitter to run from one end of the machine to the other.

It can be figured that five minutes are saved on each set by this method, and 12 sets will easily give the knitters an extra set each day.

The foregoing method is more efficient than the help-as-you-can method, and there is no need for the knitters to run hither and yon about the mill, helping other knitters to turn welts and neglecting their own machines.

At first, when employing this method, the knitters will not wish to let their machines stand for a few minutes to wait until the machines get to knitting in the proper relation to each other, but this is essential for successful operation of the partner method; this must be done the first thing each shift, if the machines are not already in the proper relation. Even if one machine must stand five minutes, this time will soon be made up and the dozen gained at the end of the shift.

Management Must Help

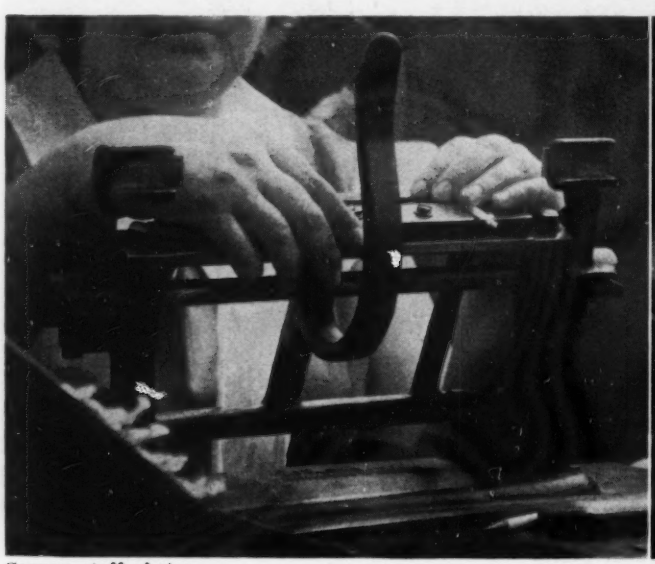
It is of special note that management must also bear in mind the necessity for playing its part in the co-operation of knitters in order to obtain results. Where possible, the two leggers in the same aisle must be kept at the same speed, number of sections, and type and style of goods knitted. If it is impossible to knit the same style on both leggers, the style should be so arranged that it will take the same time to run sets off on both leggers in the same aisle. This is important.

Next, some knitters are naturally faster than others and wherever possible, two knitters of like characteristics should be placed in the same aisle. Keep knitters that co-operate together.

This method works; the writer has proved it. The writer has found that it is preferred over two-machine operation, it increases production, it is easier on the knitter and it develops quality work.

Does Jewelry Cause Pull Threads in Your Plant?

HERE we see two toppers at work in a full-fashioned hosiery plant. Can you see a striking difference in the two pictures? Why sure! The young lady on the right is wearing jewelry, and jewelry may cause pull threads. The lady wearing jewelry could excuse herself on the grounds that her associate is working on nylon and it wouldn't be advisable for her to wear a ring and bracelet because nylon pulls and picks easier than tram silk, on which the lady in the righthand picture is working. At that, tram silk hosiery can and is pulled and picked by jewelry worn by operatives, and it should not be worn by employees in hosiery mills while they are on duty. Some mills forbid wearing any type jewelry.



COTTON staff photos

Knitter Hints
(No. 3)

Improper Way to Top-On

(Unraveling a press-off is wasteful and is a sign of inability)

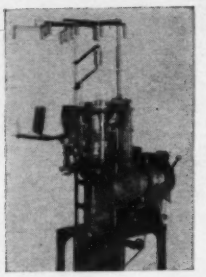
Photo, John C. Fonville of "Cotton"

"Knitter Hints" Nos. 1 and 2 appeared in April and May issues.

KNITTING KINKS

The Komet Machine

Article 6



• This is the sixth article in a series on Komet machines, written by a practical mill man who has had much experience on Komets and other circular machines. The series began in December 1940 issue. It would be helpful to the reader if he had before him the new Komet and Links and Links machines catalog of parts for reference. Specific questions on fixing Komets will be answered by the author if directed through the editors.

IN THE FIFTH article of this series (appearing in the April issue) we covered as well as our limited knowledge would permit, the driving mechanism of the Komet machine. Before we proceed to the next unit, the writer feels that some remarks about the wind-up mechanism and work drum are in order, since these parts are closely related to the driving mechanism.

Due to the fact that rib knitting is done on the Komet, a certain amount of tension or downward pull must be kept on the fabric at all times except during the heel and toe knitting. The same principle is followed on rib machines; however, on these machines the *amount* of downward pull is governed by the actual weight of the take-up rolls and other necessary parts, whereas on Komets the downward pull is kept constant by pressure of the wind-up rolls on the fabric, plus the action of the winding-up mechanism.

Winding-Up Device

The clutch and brake mechanism automatically stop the winding-up device as soon as heel and toe knitting begins and until it is completed. Theoretically the winding-up device pulls the fabric down as fast as it is being knitted; actually this device does more than that. It would be difficult to pull the fabric down on a Komet course-for-course single or double feed with a device that is not designed to allow for slippage; the Komet winding-up device does just that.

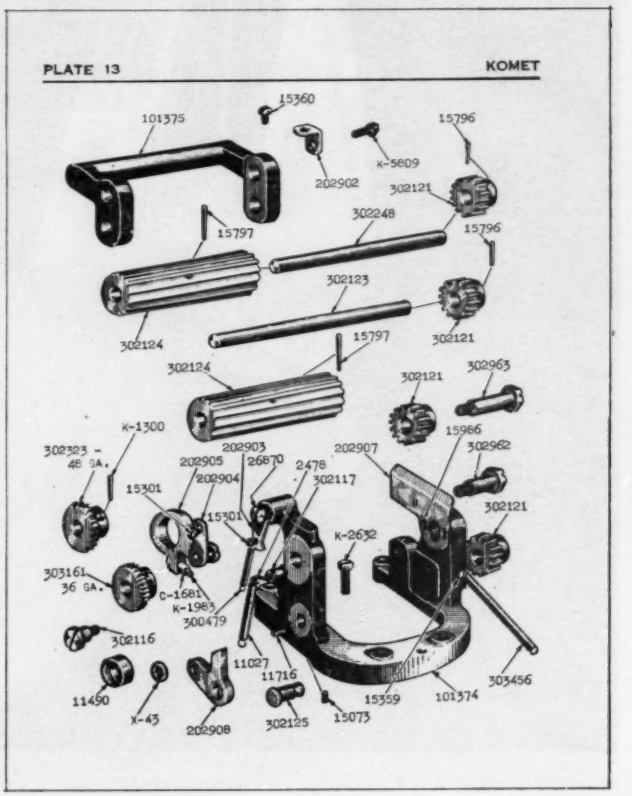
With this article we show Plates 13 and 14 of the Komet parts catalog. The winding-up device, its care and adjustment have much to do with various knitting problems, and it is just as important to successful operation of the Komet as any other part or unit of the machine.

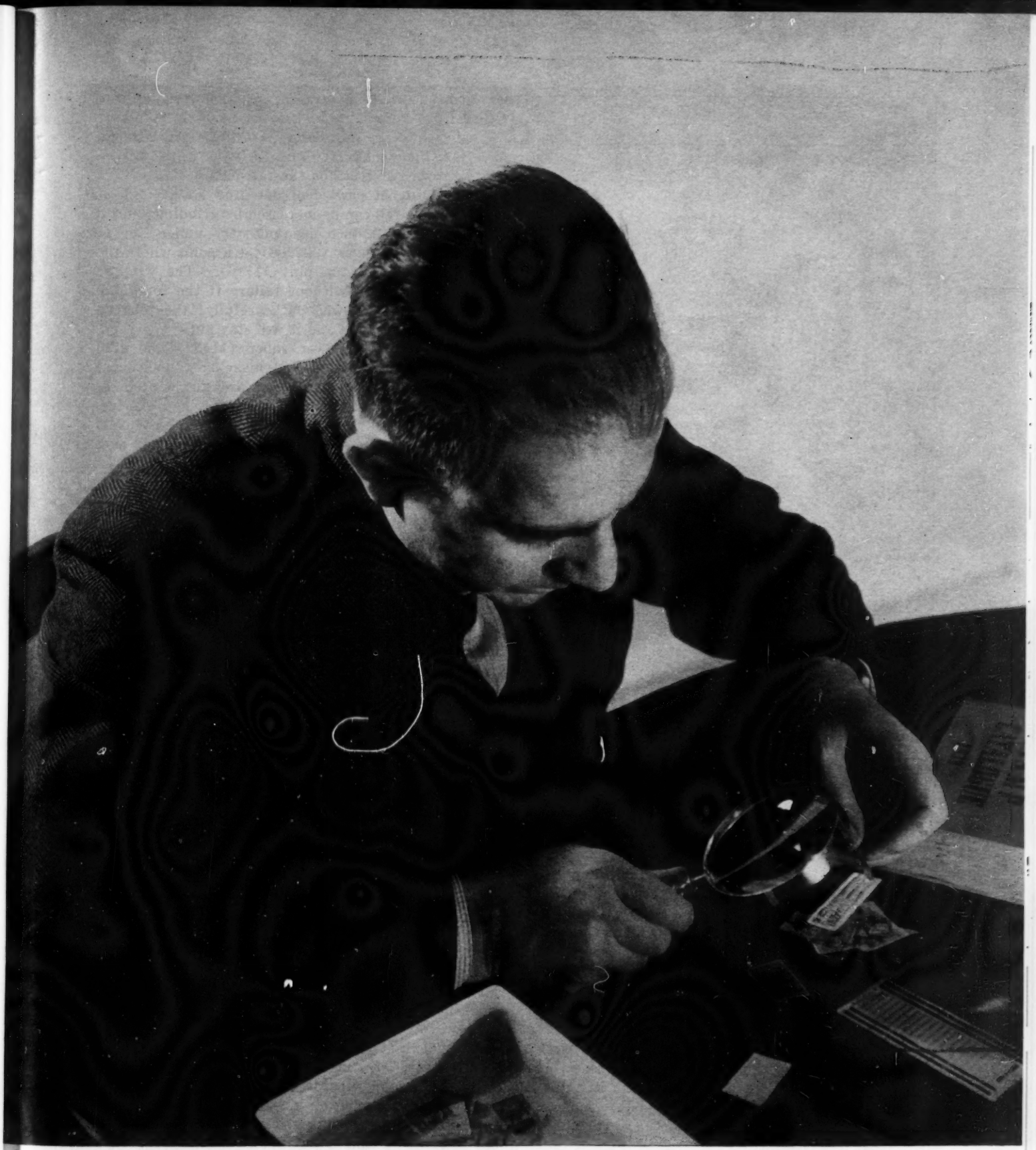
Keep sufficient tension on the wind-up spring (303456) so the take-up rolls will keep a constant pull on the knitted fabric—too little tension will help contribute toward loading up the needles when a slider butt gets broken or when needle latches become bent or broken. When making rib fabric there is a constant upward pull on the fabric and this must be offset by the tension of the wind-up spring on the take-up rolls.

We have found by actual experience that as the number of broad rib needles are *increased* the correct functioning of the wind-up device becomes more important. For example, on 3x3, 6x6 or 12x12 patterns, the tendency to load up when trouble with bad needles develops is greater than on 6x3 patterns. This is no doubt due to the greater number of rib stitches being made in proportion to frame knitting, the upward pull on the former being 50-50 and on the latter two-to-one in favor of frame knitting.

The camming surface or track on the wind-up bearing bracket (101376) shown on Plate 14 in the Komet and Links and Links parts catalog is designed to move the ratchet wheels (303161) one tooth at a time when adjustments are correct. This is accomplished by the cam follower roller (11490) attached to lever (202908), moving the ratchet lever (202905) and ratchet lever racking pawl (202904) which in turn moves the ratchet wheel (303161) one tooth for each revolution of the wind-up device.

[Either the names or numbers of the racking





"The wise man is he who knows the relative value of things"
Dean Inge

The new READING 30-Section 51-Gauge Full-Fashioned Knitting Machine produces 104 per cent more volume and 156 per cent more value than ordinary 20-section 42-gauge machines . . . . . *And remember: Money invested in modern machinery serves as insurance for your total investment.*

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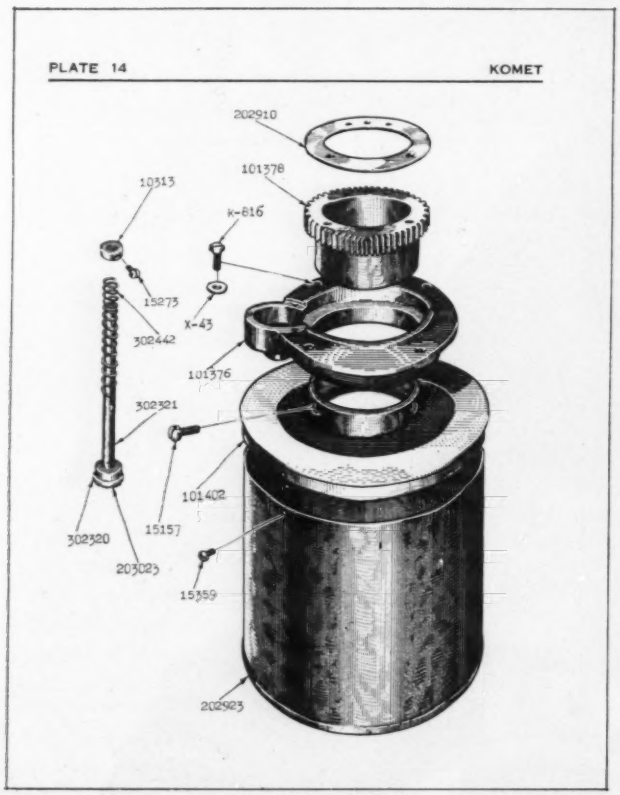

pawl and retaining pawl have been crossed. Plate 13 shows (202903) as the retaining pawl and it is listed as racking pawl, and (202904) as racking pawl and it is listed as retaining pawl; (202904) *is* the racking pawl as shown herewith.]

Both pawls are alike, the racking pawl (202904) moves the ratchet wheel and retaining pawl (202903) holds the move and prevents the rolls from unwinding. Lost motion between the gear carriage (101378), wind-up bearing bracket (101376) and work drum top plate (101402) shown on Plate 14 will have a lot to do with the ratchet pawl movement and the retaining pawl action. If the ratchet pawl fails to move the ratchet wheel far enough to permit the retaining pawl to gain a full tooth at each revolution of the work drum, the ratchet lever stop screw (K-1983) can be run in to get the required amount of movement to overcome this trouble.

Care of Wind-Up Device

We must keep in mind this fact, as the lift of the ratchet pawl is increased, by adjusting the stopscrew (K-1983), its fall is decreased in like measure. In other words, the stopscrew adjustment can be utilized up to a given point, and excessive adjustment will make the whole wind-up device inactive. The following will keep the wind-up device in good working order and allow for ordinary wear over a long period of time:

First, check the retaining pawl (202903) at a point when the cam follower roller is coming toward the highest point on the cam track and within about one-half inch of being up on the high point. At this position the retaining pawl should be about 1/32-inch behind a tooth on the ratchet wheel. If the clearance is not sufficient, adjust the stopscrew (K-1983) to get this clearance. Next, turn the machine until the cam follower roller is midway between the low points of the cam track; at this point the ratchet pawl should have fallen *low* enough so that the pawl will rest midway between two teeth on the ratchet wheel.

If the ratchet pawl does not drop low enough at this point, its fall can be increased by grinding a small groove about 1/32-inch deep into the under side of the cam follower lever (202908) at a point where the lever rests on the stop pin (11716). The wind-up device will function without failure if the foregoing suggestions are followed out carefully; the job can be done in 15 minutes and it will stay put.

Keep the cam follower roller (11490) and stud (302116) well lubricated and make sure that loose threads have not become wrapped around the stud between the roller and spacer (X-43); this happens frequently and makes the roller turn hard. The complete wind-up device, due to simple design and sturdy construction, gives little trouble once it is properly adjusted. Don't forget a few drops of oil on the shaft bearing and roll gears (302121).

The Work Drum

The work drum requires very little attention. Check the top plate screws (15157), as they do become loose occasionally and this condition creates lost motion, which affects the movement of the ratchet pawls on the wind-up device. Excessive pressure on the work drum brake should be avoided because it simply causes unnecessary wear on the bearing surface, which carries the work drum and makes the machine turn hard when going onto and off of the heel and toe.

It is especially important to check up on these minor details when starting up new machines and after they have been running for several weeks. And last but not least, teach operators not to use the work drum as a storage place for hosiery, but to keep the hose cut off as fast as they are made. Seconds and waste will surely pile up if operators are permitted to allow the work drums to fill up.

Double Feed Racking Mechanism

Now we come to a very interesting unit of the Komet, one which is more or less complicated. Most of the parts are shown herewith and those not shown can be found on Plates 11 and 27 and 30 in the Komet and Links and Links catalog. When we say complicated we do not mean that this unit is particularly troublesome, but rather that the function of this unit must be thoroughly understood and many things must be taken into consideration when adjustments are made. Correct timing once again becomes important.

The double feed racking mechanism serves a twofold purpose. First, it puts the two-feed mechanism *in* and *out* of action at the proper time and secondly, it automatically resets itself when the main drum is racked around by hand to start position for any reason. For the foregoing reason, part of this device is known as the corrector mechanism. Instructions for setting two-feed racking mechanism at the factory are as follows:

"To set the two-feed racking mechanism the main drum is permitted to take the complete kick before go-

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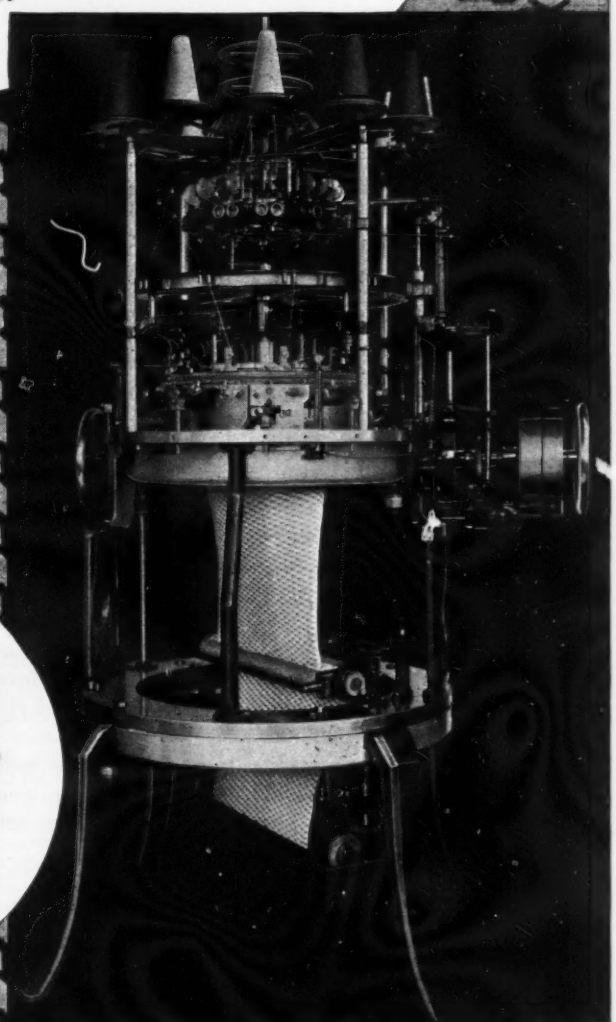

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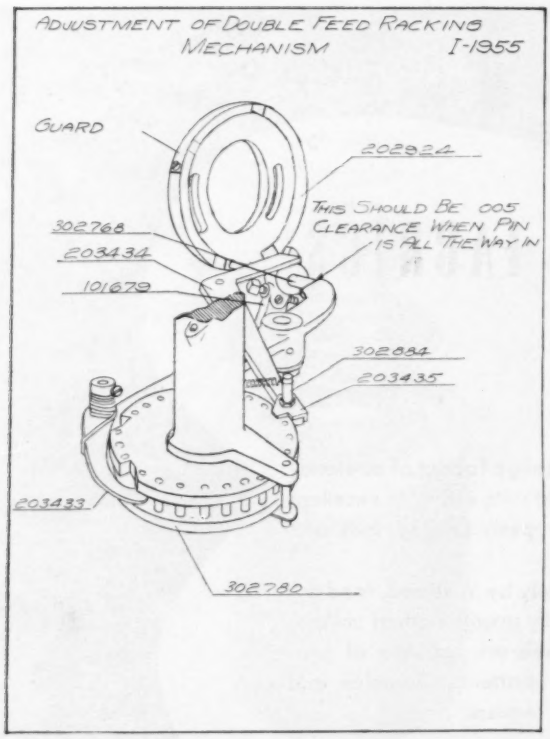

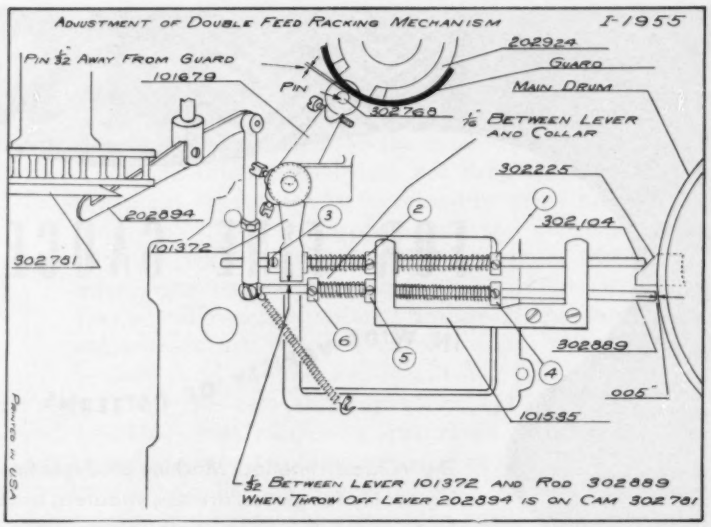

ing into heel. With drum in this position the rod (302104) should be just touching cam (302225). To maintain the contact between rod and cam, adjust collar No. 1 against spring, and set collar No. 2 against casting (101535). Collar No. 3 is next set to hold lever (101372) within about 1/16-inch of touching collar No. 6. Rod (302889) should rest with .005-inch clearance between end of rod and surface of main drum. Collar No. 4 is set against spring to give quick return of rod and collar No. 5 is set against casting (101535).

"Rod (302889) is set with 1/32-inch clearance between it and lever (101372) when lever (202894), which operates rod, is on top of cam (302781). With rod set as explained, set lever (101679) so that pin (302768) just clears guard on cam (202924) by 1/32-inch.

"When rod (302104) rises on cam (302225) it will place lever and pin in active position. The pin should ride on center of cam and when on lowest point it should be within .005-inch of touching bottom. When pin (302768) is in action, lever (101679) should clear lever (203434) by .005-inch. When pin is out of action, lever (203435) should clear outside of lever (101679) by 1/32-inch, and cam (203435) should ride in center of gap on (302780)."

In line with the foregoing instructions, we must of course make certain allowances for ordinary wear after the machines have been operating in the mill for a reasonable length of time.

Recent Improvements

A number of valuable improvements have been made on this unit since the first Komets were built and the instructions we quoted were given. Push rods (302104) and (302889) shown herewith are old style non-adjustable types; new style push rods (302104) and (302105) with adjustable ends (304811) and (304810) are shown on Plate 11 in the Komet and Links and Links catalog. These adjustable ends provide a simple means for taking up a slight amount of wear on the push rod; 1/32-inch worn off the end of a rod may make the difference between correct functioning of the two-feed racking device or failure to function properly. The upper push rod (302104) is more likely to show wear than the lower due to its being used to a much greater extent. Upper push rods on late model machines are adjustable on *both* ends which is very helpful.

Push rod collars (304813) are now provided with a taper pin which makes it impossible for the collar to slip on the rod; larger cotter pins are being used on the lower push rod and they will not shear off, which means less trouble.

Another worthwhile improvement is the new style adjustable lever (101678). The cam follower (302768) is bound to become worn through constant use. On older models worn cam followers had to be replaced, but on later models it takes but a few minutes to run in on the adjusting screw (304334) and thus regain lost motion caused by worn cam follower. When repair or replacement of parts which have been improved becomes necessary, it will pay to order improved parts and thus bring machines up-to-date.

The Cam Follower

At this time we wish to stress the importance of the cam follower (302768). It becomes worn so gradually that we forget all about it until the two-feed mechanism gets out of time, or some minor knitting difficulty develops; then we start checking up to see what's wrong. The following are a few things which are affected by a worn cam follower: Draw thread feed finger goes into and out of feed position too late; opening and closing time of draw thread and double feed trappers affected; draw thread feed cam will be delayed in going in and late in coming out, the latter meaning broken slider butts; rib bolt cam will be delayed in going in and coming out; cam (203435) will fail to fall into gap which permits extra moves to be made by the racking pawl, thus causing the two-feed mechanism to get out of time.

The double feed mechanism getting out of time is

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Check for INFORMATION

☐ STYLE 52800 B — A three needle machine (illustrated in circle) for attaching cuffs to union suits, etc. It produces the one operation lap seam Type FSa-1 with the 5-thread Interlock stitch, Type 605. Features off-set differential feed and most efficient type edge guides.

☐ STYLE 52800 D—For general, heavy and medium weight seaming. It has the tandem differential feed and a three-section bottom presser foot. Otherwise, same as 52800 B.

☐ STYLE 52800 E — A two-needle machine for attaching split-tube borders to necks and armholes of athletic shirts, and for making built-up shoulder straps. The construction of the feed dog, throat plate and presser foot, together with the intermittent strip tension insure a well-shaped neck with a better appearing stitch.

☐ STYLE 52800 F — Similar to 52800 E but intended more as an all-purpose machine. Attaches split-tube borders in finished widths of ½", ⅝", ¾", ⅞" and 1".

☐ STYLE 52800 G — A two-needle machine especially well suited for attaching lace or knitted tubing.

☐ STYLE 52800 H—For attaching collarettes to knitted undergarments with the 4-thread Interlock stitch, Type 602. Handles long length rib knit strip cut either parallel or perpendicular to wale.

☐ STYLE 52800 J — Specially designed to perform the second part of the two-operation process of attaching garment length collarettes to knitted underments.

☐ STYLE 52800 K — Similar to 52800 H but makes the 5-thread Interlock stitch, Type 605. Offered in standard gauges, No. 14 and No. 16 for standard finished widths of ¾", ⅞", 1" and 1¼".

Name..... Address.....

one of the ordinary troubles which stumps us at times. In most cases it turns out to be something simple caused by ordinary wear, faulty adjustments or accidental breakage of parts. Fixing or correcting these minor ailments is usually simple. Finding the real cause of our trouble is sometimes difficult due to our lack of understanding.

First of all we must remember that the double feed mechanism must work in harmony with the main drum and upper and lower cylinder movements. This brings us to an all important factor on the Komet, correct timing or the working together of various moving parts. Recently a Komet fixer's helper asked the writer what causes the two-feed device to get out of time. The writer replied as follows:

"Pattern chain out of time; wrong main drum moves; worn upper push rod (302104); improper setting or loose push rod collars; loose, worn or improperly set racking cam (202924); worn cam follower (302768); cam follower lever (101678) loose on its shaft or improperly set; control lever cam (203435) loose or set wrong; eccentric stop (302926) loose or improperly set; racking pawl (203433) loose on its hub or with excessive or insufficient tension on its spring; too much or too little tension on double feed ratchet wheel (302780)."

"Wait a minute," said the young man, "do you mean all these things can cause the double feed device to get out of time?"

"Yes, any one or a combination of several."

He smiled and said, "How about helping me find out what's wrong with this one? It has me stumped."

We investigated and found a No. 1 push rod collar loose, which prevented the return spring from pulling the cam follower lever out of action. He said that it was quite simple when he knew what to look for.

The next time this lad has similar trouble, he will first look for a loose collar and find it tight and then he will have to look elsewhere, just like we all do when we get stumped. That looking and finding, brother, is called experience. It has a lot to do with how much you get on pay day.

Adjustment of Double Feed Racking Mechanism

Now let us examine the drawings appearing with this article and check some of the adjustments and settings. We will begin with the racking cam (202924). Much depends on the setting of this cam since it supplies the motion necessary to operate the double feed device. We quote from factory instructions—"To set racking cam put machine into heel. As the rack coming out of the heel is about to begin see that the front drum operating cam is right up against the upper push rod which pushes the cam follower lever (101679) and follower into the track of the racking cam. As the rack begins the push rod will, therefore, start to move and the gap in the racking cam should be so placed as to allow the cam follower to enter. It will be seen that this point fixes the earliest position of the cam. If the cam is set too early the gap in the cam will have passed before the push rod starts to move. One gap in the racking cam is covered with a guard so that the racking can commence only in the correct gap."

The adjusting screw in the cam follower lever (101679) rests on the bevel gear guard when the cam follower lever is in active position. It should be set to hold the cam follower in the center of the racking cam track. When the cam follower lever is out of action the point of the cam follower should be 1/32-inch away from the racking cam guard. If the clearance in the out position is insufficient a thumping sound will be heard; this indicates that the cam follower is riding over the guard. Do something about that thumping or you will find the guard knocked off of the racking cam. It's a job to put on a new one.

Lubrication

Keep the racking cam well greased and oil the cam follower regularly. Note carefully where the drawing shows 1/32-inch between lever (101372) and rod (302889) when throw-off lever (202894) is on cam (302781), also 1/16-inch clearance between lever and No. 6 collar. These settings are important and necessary to permit the corrector mechanism to re-set the double feed device when the main drum is racked around to start position by hand for any reason.

The cams on the main drum which act on the upper push rod are used only to put the double feed racking device into action; if the main drum should stop moving and remain stopped with the upper push rod resting on a drum cam, the double feed racking will continue until the main drum makes a move. When the upper push rod falls off of the main drum cam, the control lever (203434) takes over and racking continues until cam (203435) falls into a notch on the ratchet wheel. The racking action is then stopped by the return spring pushing against collar No. 1, thus taking the cam follower out of the track of the racking cam when the open gap reaches the cam follower.

Cam (203435) should be set to rest in the center of a notch on the ratchet wheel when racking pawl (203433) has made a full stroke. As the cam follower becomes worn, cam (203435) must be re-set; this is also necessary when readjustments are made on the new type adjustable racking levers.

When racking pawl (203433) is at rest, there should be about 5/32-inch clearance between the hook on the racking pawl and the pin in the ratchet wheel. This adjustment can be checked by moving the racking pawl out until the hook is directly in front of a pin on the ratchet wheel. More or less clearance as needed can be gotten by adjusting the eccentric pin which acts as a stop for the racking lever to which the racking pawl is attached.

Installing New Cam Follower

If a new cam follower is put in or if the racking lever (new type) adjustment is changed, the stroke of racking pawl (203433) will of course be affected. Be sure in such cases to re-set the racking lever eccentric stop pins to maintain proper clearance between hook on racking pawl and ratchet wheel pins. Remember that excessive friction on the double feed ratchet wheel puts an extra load on the racking cam (202924), cam follower (302768), racking lever and racking pawl. Just enough tension on the ratchet wheel to keep the spindle under control when the double feed is out of action is all that is needed.

K. O. METZ.

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Application of Counters to Knitting Machines

COUNTERS to determine the production of machines have long been used by the spinning and weaving branches of the textile industry, and have in some instances been applied to full-fashioned machines. Recently an installation of counters has been on circular knitting machines, as illustrated in the accompanying illustration.

Illustration courtesy Veeder-Root, Inc.

The installation of counters on productive machines practically always increases the amount of goods made, thereby benefiting both the mill and the operative. Some of the points made by mills using counters to show the advantage of having them are given in the following paragraphs.

The operative can see exactly what he has produced when the counters are on the machines, and understands that in this way a fair payment will be made for his work. He can also see how his efforts compare with those of his fellow workers, and through competition and keener attention, he is more likely to produce a greater quantity of goods and thereby earn more.

From the standpoint of the mill management, the counter gives a positive and quick check on production both for individual machines and individual shifts, increased production through operatives keeping a more critical eye on their counters and the work produced, gives direct payroll readings for piecework payment, readily shows up mechanical troubles such as loose belts and wrong pulley sizes, and causes a quick report by the operative on mechanical troubles developed by machine, eliminating much defective goods.

Counters also permit a closer check on the uniformity of stitch formation, accurate measurement of cloth length for uniform rolls and give the actual amount of fabric produced instead of guess-work. Also, there are fewer arguments as to amount of goods made by any operative because counter readings are an open record and leave no excuse for argument.

When counters are applied to circular knitting machines, the revolutions made by the machine are registered, and knowing the formation of the fabric, it is quite simple to figure yardage, production, loss of goods, and to set up production schedules.

An Eye on the Knitting Mills

Perry (N. Y.) Knitting Company has plans for a new three-story addition 40x80 feet, costing over $50,000 with equipment. The mill makes underwear and outerwear.

It is reported that Meier Textile Company, Hawley, Pa., is the name of a 42-gauge full-fashioned plant opened by A. Meier, formerly with Atlas Silk Hosiery Company, Paterson, N. J.

Armco Finishing Corporation, Greensboro, N. C., has become a unit of the Burlington Mills Corporation. No changes in operating policy have been made.

C. & M. Hosiery Mills, Inc., 100 S. Hanover St., Baltimore, Md., is planning to make alterations and improvements in the mill.

Capitol Knitting Mills, Inc., Newton, N. J., a recently organized concern, plans to manufacture outerwear and other knit goods.

Theme Hosiery Company, Inc., Los Angeles, Calif., has let contract for one-story addition, costing nearly $25,000.

It is reported that the Monroe (N. C.) Full-Fashioned Hosiery Mill has been sold to the Pilot Life Insurance Company, Greensboro, N. C.

Machinery is being placed in the new plant of the old Colony Knitting Mills. A line of knitted sweaters and scarfs will be made.

Oscar Nebel Hosiery Corporation, Verona, Va., is a newly organized concern of which Harry E. Schoenut, Jenkinton, Pa., is president.

Additional new Komet machines are being installed at the Unique Knitting Company, Acworth, Ga.

S. & F. Hosiery Mill, Inc., Dayton, Tenn., is installing seven new full-fashioned machines.

A new knitting mill has been opened at Villa Rica, Ga., under the management of J. C. Brown.

A looping department for the Wrenn Hosiery Mill of Thomasville, N. C., has been established at Lexington, N. C.

Select Hosiery Mills, Inc., Hatfield, Pa., will erect a brick plant on Vine Street, 66x140 feet.

Jac Feinberg Hosiery Mills, Rock Hill, S. C., will build an annex 52x90 feet.

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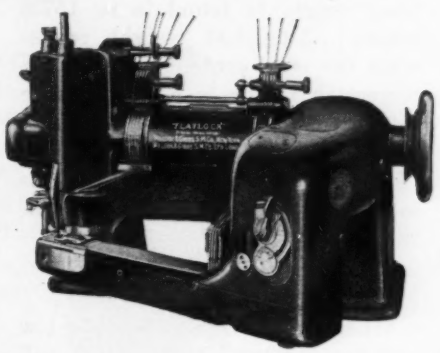

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Laboratory Analysis of Part-Wool Fabric Under "Labeling Act"

THE PROVISIONS of the wool labeling act as passed by Congress has added another headache to the already tired head of the manufacturer. The purpose of this article is not to explain in any degree the measures and provisions of the law, but is simply to show how it is possible with limited laboratory equipment to make an analysis for fiber content that will come within the bounds of "due diligence" as required by the act of Congress.

"Minimum" Laboratory Equipment

The following is a list of the minimum equipment necessary: A good beam balance and set of weights; a drying oven, preferably with temperature control; a desiccator; a 1000 ml. graduate; several oven glass pots of about 1½-quart capacity; a thermometer registering to 220 degrees F.; glass stirring rods; and a filter cone of 100-mesh brass wire. A cheap milk strainer can be used for the last mentioned piece of equipment. In the well-equipped laboratory suction filters and corrosion resistant metal pots will be available, but even here, the oven glass can be used to advantage due to the concentrations of the acid and caustic solutions used.

The chemicals required are concentrated sulphuric acid, potassium hydroxide sticks or pellets, anhydrous calcium chloride, sodium bicarbonate, and dilute acetic acid.

It is assumed that sizings and finishing materials are in such amounts as to be of little interest so no mention will be made of the various enzymes and solvents used in the determination of these materials.

Two concentrations of sulphuric acid are required; a 1 per cent solution (by weight) and a 70 per cent solution (by weight). Concentrated sulphuric acid is usually supplied in about 95 per cent concentration and of a specific gravity of about 1.84. The 1 per cent acid is made by adding 5.5 ml. of concentrated acid to 1000 ml. of water. The 70 per cent acid is made by pouring slowly 800 ml. of concentrated acid into 526 ml. of water and the mixture allowed to cool. This mixing should be done cautiously for a great deal of heat is generated, the temperature of the mixture going to around 250 degrees F.

With the foregoing solutions of sulphuric prepared we are ready to determine the wool content of a sample and assume that it is a cotton-and-wool half-hose of the so called 50-50 mixture.

Procedure For Finding "Wool Content"

The sock is placed in the drying oven and run at a temperature of near 220 degrees F. for about 2 hours or until it no longer shows loss of weight at 10-minute intervals. This weight is recorded as the dry fiber weight, for example, it is found to be 302 grains. The sock is then boiled for 10 minutes in 600 ml. of 1 per cent sulphuric acid. It is transferred to the fine mesh strainer and excess acid squeezed out. Place in about 1000 ml. of 70 per cent sulphuric at 100 degrees F. Stir freely and work for 20 minutes; filter through the 100 mesh screen or strainer and wash several times by pouring on cold water. Place sample in a weak bicarbonate of soda solution for a few minutes. Filter again and wash well. Remove residue to oven, dry as before, and weigh. The dry fiber weight is found to be 157.8 grains. This last weight represents the wool content of sock. No correction factor is needed as the sulphuric acid has no effect on wool.

The percentage of wool in the sock is $(157.8 \div 302) \times 100 = 52.2$ per cent.

Alternative Method

Where the wool content is low and the residue left from the sulphuric acid treatment is hard to collect and weigh, the wool may be dissolved by using potassium hydroxide.

A 5 per cent solution of potassium hydroxide is prepared by dissolving about 2 ounces of potassium hydroxide pellets in 1000 ml. of water.

The oven dried sock weighing 300 grains is boiled for 20 minutes in 1000 ml. of the 5 per cent potassium hydroxide solution. Filter and wash on the mesh screen, washing first with potassium hydroxide solution then with water and finally with dilute acetic acid. Wash again with water, oven dry and weigh. The weight is found to be 252.2 grains. The loss in weight of cotton fiber boiled in this strength potassium hydroxide is about 3 per cent so the correction factor is 3. The corrected weight is then $252.2 \div (100 - 3) = 260$ grains.

The percentage of cotton is $(260 \div 300) \times 100 = 86.7$ per cent. By difference, wool is 13.3 per cent.

These tests can be made in a short time and the two methods may be used as a check against each other so the accuracy can be verified.

Hosiery Mill Laboratory Important

The two items of equipment that would be hardest to improvise are the scale and oven but even these may be substituted for. A roving scale such as nearly all mills have would be fairly accurate on the large sample that we have used, and using an electric light bulb, a thermometer and a couple of dye cans a passably efficient drying oven could be made. If the mills executives as a whole realized the benefits to be derived from even moderately equipped laboratories no mill would do without one.

No mention has been made of the separation of any fibers except wool and cotton but it is possible to make a complete breakdown of all fibers including wool, silk, cotton, rayon, and acetate rayon. While not beyond the ability of the average technician the equipment needed is rather costly.

The desiccator, mentioned as part of equipment, is used for cooling sample from oven before weighing, as the moisture regain is slower on the cooler sample. If a closed front scale is used and a small tray of anhydrous calcium chloride is kept fresh in scale this is not so important.

Where the number of samples processed by the potassium hydroxide method is large and cost is a consideration, sodium hydroxide may be used but the potassium hydroxide is to be preferred. The results in either case are comparable.

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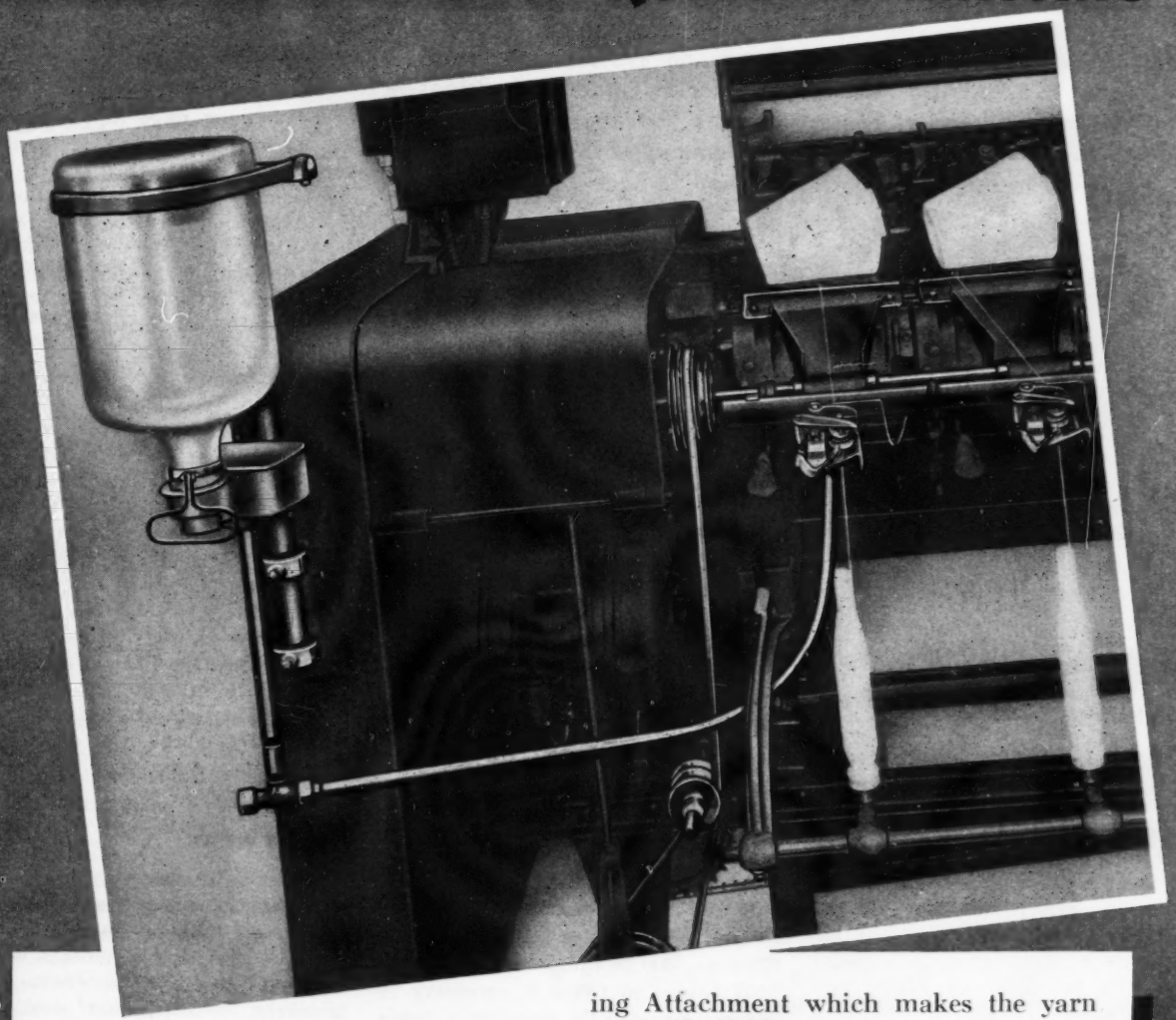

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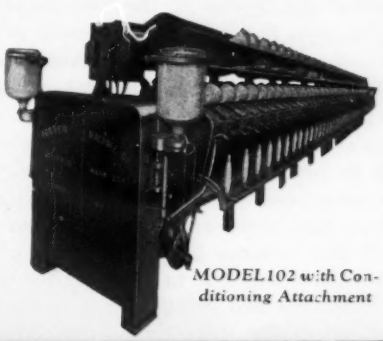

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TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Half-Hose and Bundle Hosiery Boom on Defense Program—Higher Costs Bring About Increases in Underwear Prices—Prospect of Higher Wages Causes Advance Coverage in Knit Goods—Hosiery Union to Demand 15 Per Cent Wage Advance in Full-Fashioned Lines—Mills Back 36 Cent Seamless Rate

May 16, 1941

THE SEAMLESS END of the hosiery business has been the most active this month with buying extending further head and prices advancing due to the sharp increases that have come in cotton yarns of all types. During this time interest in full-fashioned hosiery has been less active and prices have been a little soft, such knitters complaining of losing help to other industries where they are attracted by higher wages. Underwear manufacturers are confronted with higher costs both in respect to cotton yarn levels and also in possible future wage advances so that active buying of underwear for the next year's spring season has been seen. Several makers of underwear have already placed conservative price increases in effect but these have been large enough in instances to mean a change in consumer price tags although the retail mark-ups will be small, five cents in some numbers.

Full-Fashioned

This end of the hosiery business has fallen far behind the seamless with much of this being due to the vast changes being brought about in the national defense program that has caused such great activity in men's socks and the bundle goods. While raw silk has not changed greatly in price over the month there has been no especial strength in full-fashioned prices and manufacturers in several instances complain they are losing help to non-textile lines where higher although temporary wages are paid.

During the first three months of this year shipments of all types of women's full-fashioned goods were 5.3 per cent larger than the same three months in 1940 but this increase was partly offset by the nylons which were not shipped in the first quarter of 1940. Without taking nylons into consideration shipments of full-fashioned in the period were 9 per cent smaller. According to data prepared by the National Association of Hosiery Manufacturers, nylon shipments during the first three months of this year were about 14 per cent of the total full-fashioned deliveries, but there is now some question whether this will show as great gains later this year. The reason is more nylon may be allotted to other lines than full-fashioned so that some in the industry believe the March shipment record of nylons may not be greatly increased as long as the emergency lasts.

Half-Hose

Advances in cotton yarns over recent weeks have brought about increases in the prices of many lines of half-hose and at the same time mercerized yarns have been stepped up in price so that manufacturers of such lines have also found it necessary to advance prices with some lines being increased 10 to 15 cents per dozen. Mercerized yarns in the last month have been increased 6 to 8 cents per pound and this is only the last of a series of increases that have taken this type yarn up in the last year from a basis of 61 cents to the current level of 88 cents for 60s two-ply ungassed. A great deal of forward business in these lines of hosiery was placed before the last advance in yarns and goods got under way but in the near future wholesalers and retailers will have to get up to the new yarn price level. Shipments of half-hose in the first three months of the year have increased to a greater degree than any other section of the market with much of this due to military orders and to improvement in the heavy goods industries. Bundle goods' shipments in the first three months of this year were up 30.7 per cent compared with the same three months in 1940.

Seamless

Recommendation of a 36 cent per hour minimum wage for the seamless branch of the industry met with no objections at a meeting May 2 before the Federal Wage and Hour Board so that indications are this level will be placed in effect September 15. The seamless end of the market has been very active in the last month with buyers evidently seeking to beat the gun and get down as many orders as they could before the price advance in such goods actually comes. In addition to higher costs probable from wages, the seamless trade is confronted with sharp increases in goods prices to come from the higher cotton and mercerized yarn costs. But notwithstanding this prospect, shipments of women's seamless hosiery during the first quarter of this year were smaller than a year previous while in March this year shipments were almost 14 per cent smaller than in the same month a year previous. Shipments of children's and infant's goods in the first quarter were about 7 per cent ahead of the same period a year ago.

Underwear

Underwear production for the first three months of this year was 10.7 per cent larger than in the same weeks a year previous, and shipments were up in about the same proportion. Manufacturers of cotton and wool underwear have been more actively engaged than for several years and substantial buying by the Government has also been a factor in bringing this situation about. For example, the heavy Government buying in heavy part-wool shirts and drawers has had much to do with the large increase in such shipments this year and the Government has also been an active buyer of light-weight underwear. Prices of cotton knit underwear have been advanced due to higher costs of manufacturing, especially coming from advances in cotton yarns but the underwear price changes have been very moderate, which is partly due to underwear mills having cheap yarn contracts. They are passing the benefit of these on as long as possible to their customers. Stocks of underwear held by the mills at the end of March were considerably smaller than a year previous, indicating a healthy condition in this respect.

YE OLDE TORRINGTON ALMANACK

Thirty Days Hath JUNE

☞ Some say that the month of JUNE was named after the Roman goddess JUNO; others that it was named after JUNIUS BRUTUS, first Roman consul. Be that as it may, it is unimportant, for June is a month to FORGET the past and enjoy the PLEASURES of the moment. As the poet said, "No price is set on lavish summer, June may be had by the poorest comer." It was June, also, that inspired the POET to say, "Gather ye rosebuds while ye may, old Time is still aflying." If you feel that you must BE MARRIED, marry in June, for June is the MARRYING MONTH and there will be many others to share your MISERY. But take heart, it is well for a man to remember that all women who marry also buy a CAT IN THE BAG.

People born in the period between June 21 and July 22 are called CANCERIANS, coming under the influence of the Zodiacal sign of CANCER. Cancerians are often given to making DRAMATIC GESTURES and SWEEPING STATEMENTS and frequently talk about giving up the whole business and going to the SOUTH SEAS. They practically never do that, however, because they are at heart DOMESTIC, HOME LOVING people, practical and industrious. You can depend on them because they have that rare combination of IMAGINATION and COMMON SENSE which enables them to keep their CAKE while pretending to eat it, or to TRAVEL WIDELY while remaining safely at home. They are understanding and adaptable, fine people to work with or for. Any BUSINESS ORGANIZATION that has a preponderance of CANCERIANS working in it has nothing to fear from the FUTURE, although you would sometimes think so to hear some of them talk.

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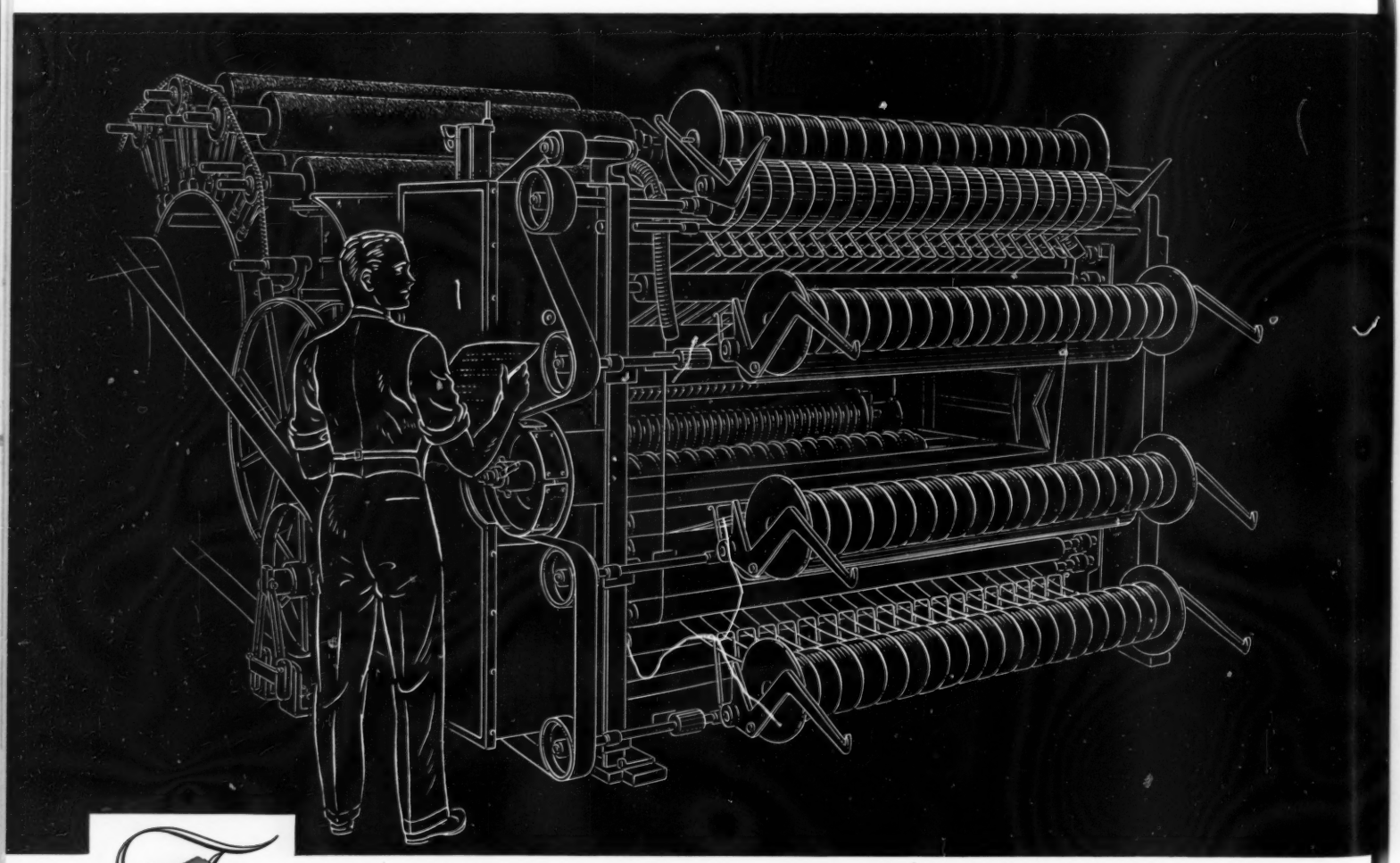

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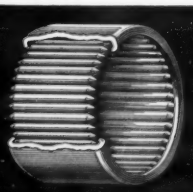


Hosiery Union Asks 15 Per Cent Wage Increase

A 15 per cent wage increase affecting both the full-fashioned and seamless branches of the industry will be demanded by the American Federation of Hosiery Workers. This decision was taken at the thirtieth annual convention of the Federation held in Philadelphia early in May and attended by 200 delegates representing 50.000 members. The full-fashioned wage demand will be presented to the Full Fashioned Hosiery Manufacturers of America, Inc., before the present contract expires August 31. Full-fashioned hosiery knitters earn a minimum of 40 cents per hour and receive a maximum of $50 to $55 weekly and in addition the union will ask for two-week vacations with pay. Under the present agreement with manufacturers dated July 15, 1938, there is a provision for no strikes or lock-outs and also a plan under which manufacturers were enabled to finance installation of modern machinery to meet southern competition through wage differentials. It was also decided to present a similar demand to the seamless end of the business notwithstanding the prospect for the seamless wage minimum under the Federal Wage and Hour Law to be increased to 36 cents. The union's demands for a 15 per cent advance in the seamless will be made when the existing contracts with such manufacturers come up for renewal.

Moderate Increases in Spring Underwear Prices

Leading manufacturers of underwear have announced moderate increases in prices for spring underwear, following the sharp increases in their costs brought about by higher cotton yarn levels. The P. H. Hanes Knitting Co. at the beginning of this month placed such increases in effect when their Blue Label line was advanced 15 to 20 cents a dozen and with similar increases being made in their other lines which in turn will necessitate slightly higher prices for the consumer. The step-up in the retail price brackets has been recognized as inevitable and this move by a manufacturer of an advertised brand line is regarded as a moderate start toward adjusting prices toward the new and higher level enforced by the sharp increase in manufacturing costs. Coopers, Inc., late in April also notified retailers of an increase in the wholesale and suggested resale price of its men's underwear. The new prices go into effect on lightweight merchandise shipped after June 25. In commenting on the increase, a company official said the new prices cover only a part of the actual increase in cost and preserve the dealers margin of profit. They throw the merchandise into so called odd price brackets but make it available to the public at the lowest possible price.

In commenting on the advance in prices another head of one large company made the following statement: "Our mercerized yarn men's athletic shirts are being sold by us at the price which has prevailed for several seasons. However, the replacement price on these mercerized yarns is from 20 to 30 cents a pound higher. If we advance the price on these shirts correspondingly it simply means that fully 50 per cent of this business will go to combed shirts because the average man will not pay a 25 per cent advance for his clothing. He just simply will not have the income with which to do it. One must bear in mind that all costs are not always on the up grade, we are constantly getting them down by more efficient operation, high speed machines, etc." It is pointed out that manufacturers in many instances have not yet begun to receive deliveries on their higher priced yarn contracts as yet.

FORECAST

(Opinion submitted by COTTON'S market correspondent)

Philadelphia, May 16, 1941

THE MOVEMENT in the United States toward a strictly war economy is gaining momentum each day so that in the very near future vast changes in business as formerly conducted will be imperative. This briefly means the country is going to gear itself to the production of armaments and everything else will be considered secondary. It will mean and in fact already means fewer automobiles and will mean fewer houses will be built except to house workers in shipyards and other military centers.

This could mean more important adjustments in the textile industry than have already taken place. If the armed forces of the country are expanded further as now predicted and if business as usual is thrown overboard many in the industry will find themselves, if not making goods for soldiers and sailors, then doing something very closely allied with the defense effort although the civilian population must, as before, be clothed. It might mean that the grade of the wool suit a man buys will become different if all the fine wools are needed for Army and Navy uniforms.

Under a war economy as we now conceive it in this country there will be no runaway prices. This means that some time this year there will be tops placed upon prices of many lines of textiles by the Government. This could mean that prices of cotton yarns would not be permitted to go over a certain level. While manufacturers would be very active, possibly running three shifts, they would not be able to make any more money than, say six months back, and even if they succeed in making sizable profits the new taxes will take most away. Financing of the war preparations this time is going to be done with only very gradual inflation, meaning that prices will rise but very slowly. The only textile fiber that increased materially in the last month was cotton yarns and the rise is slowing. This conservative price situation will be duplicated in the coming weeks.

Federal Ceiling on Combed Yarns Predicted

The combed cotton yarn trade can either eliminate "fictitious" prices or be faced with a ceiling schedule, Price Administrator Leon Henderson warned May 1, following a conference with combed cotton yarn spinners. Mr. Henderson outlined policies adopted by the Office of Price Administration in dealing with abnormal price situations. At the same time he emphasized his disinclination to impose any form of mandatory control except as a last resort and stated his conviction that productive capacity and the exercise of restraint and good judgment by the various elements producing or owning yarn should act as a sufficient safeguard against dangerously rising prices. Upon being invited to discuss the situation from their standpoint spinners stated the industry had co-operated to the best of its ability in increasing production to meet the needs of the defense program.

They were in agreement that many of the recently reported prices for combed yarns represented fictitious levels and were in many cases merely "bid" prices. Underwear manufacturers, citing one result of the price to date at their annual meeting in Philadelphia, April 24, called attention to the rise in 30s single from 29 to 50 cents, thereby making it necessary for manufacturers eventually to increase the price of under 60 cents a dozen.

Hosiery Manufacturers View Status of Raw Silk

Hosiery manufacturers would be confronted with a difficult situation if imports of raw silk stopped altogether as a result of the present international situation. This statement was made by Marshall V. Moss, president of Nomend Hosiery, Inc., at a meeting in New York, attended by representatives from different parts of the industry. Mr. Moss told of the tendency of Japan to hold down silk exports and in con-

sequence stocks of silk here were at a very low point. He said if imports stopped there were less than two months' supply of silk on hand and with not more than three to four months supply of hosiery available. The small supply of silk here Mr. Moss said would undoubtedly under emergency conditions be seized by the Government for its own special needs. Rayon, he said, was the next best available substitute after silk and the proportion of the new nylon hosiery to be had, was taken account of. He saw no great chance for relief in the rayon yarn output either since this was already sold ahead on regular uses such as weaving. He hinted the Government might step in and draft the rayon supply for allotment. Mr. Moss estimated that some 32 million pounds of rayon yarn or other substitute would be necessary for the hosiery industry provided silk imports stopped.

New rayon yarns were being developed the speaker said but they had not yet reached the market and would hardly be available for several years. Commenting on vinyon, it was not yet in sight for hosiery as it needed several years for laboratory refinement and experience. He also brought up the matter of fine mercerized and lisle cotton yarns as substitutes for silk but declared the supply here was already taken up. He dismissed the chances of wool yarns as slight since the full-fashioned machines were not adapted to the present wool yarns. Nylon was paid a high tribute being referred to as the "miracle yarn". Mr. Moss said that was what it was and it best filled the needs of his industry. He said the supply of such yarn was static for the balance of the year and figured it as accounting for 8 million dozens of hosiery. He said that not until 1942 was there a chance of increasing the production and from then to July of that year he looked for about a 50 per cent increase in the supply.

Mills and Labor Back 36 Cent Seamless Wage

At a meeting on May 2, recommendations of the Industry Committee for a 36-cent minimum for the seamless hosiery industry met with unanimous approval of both industry and labor at a hearing before the Wage and Hour Board. Urging the 36-cent minimum and recommending that it become effective on September 15, Earl Constantine, president of the National Association of Hosiery Manufacturers, told the Board that any increase beyond the recommended 36-cent minimum would be too high and would result in working a hardship upon the industry as a whole. The 36-cent minimum he said would not substantially curtail employment nor create any undue competitive advantages.

Commenting upon the original proposal of the union for a 40-cent minimum, Mr. Constantine said such an increase would be too much of a jump and added that it might have the effect of putting the 10-cent sock off the market and greatly reducing the quality of the 15-cent sock. Mr. Constantine's views were supported by John McCoy representing the American Federation of Hosiery Workers who agreed to the 36-cent minimum and also urged that the scale go into effect September 15. Also testifying in support of the recommendations were T. R. Durham, secretary of the Southern Hosiery Manufacturers Association; Frances Jones, Bureau of Labor Statistics, and Harry Douty, research and statistics branch of the Wage and Hour Board. Those testifying pointed out that the September effective date would give the industry ample opportunity to make adjustments looking to the spring business. Fall commitments have already been made under the old minimum, it was testified.

Army Knit Goods Purchases

Philadelphia Army Quartermaster Depot in the period from July 1, 1940, through March 31 of this year purchased $475,254,053 worth of textiles and related products and included in this total were large quantities of knit goods. During this time the depot purchased 63,278,382 pairs of socks costing the Government $10,792,904, while the underwear purchases amounted to 33,353,992 cotton underwear units costing $7,021,228, and woolen underwear units totaled 17,947,984 costing $19,950,497. During the last few weeks bids on 3,000,000 cotton undershirts were opened but the Army announced no awards on this invitation would be made for the present and late in the present month bids on 7 million pairs of mercerized socks are due.

Crepe de Chine Hosiery Attracts Knitters' Interest

At the Knitting Arts Exhibition in Philadelphia last month manufacturers displayed interest in crepe de chine hosiery and several booths displayed products for these goods. Makers of this type yarn announced that production of crepe de chine hosiery had expanded from 25,000 dozen pairs in January to 200,000 dozen pairs in March. Methods of preventing a twist or a bulge in the ankle of crepe de chine hosiery were described in a paper presented by B. L. Hathorne and presented at a recent meeting of the American Association of Textile Chemists and Colorists. He said boarding is especially important and in respect to dyeing and finishing, said that due to the high twist of the yarn the stocking naturally boils off a little slower and this should be taken into consideration. "Crepe de chine hosiery yarns are so processed that they not only will not kink during knitting but work better than many of the conventional twists", he said. "They do not crepe excessively during boil-off or dyeing but instead remain tightly twisted and produce a fabric more shear, more dull, and more snag resistant than fabrics made from conventional yarns produced heretofore."

Hosiery Machines Scrapped Top 1940 Installations

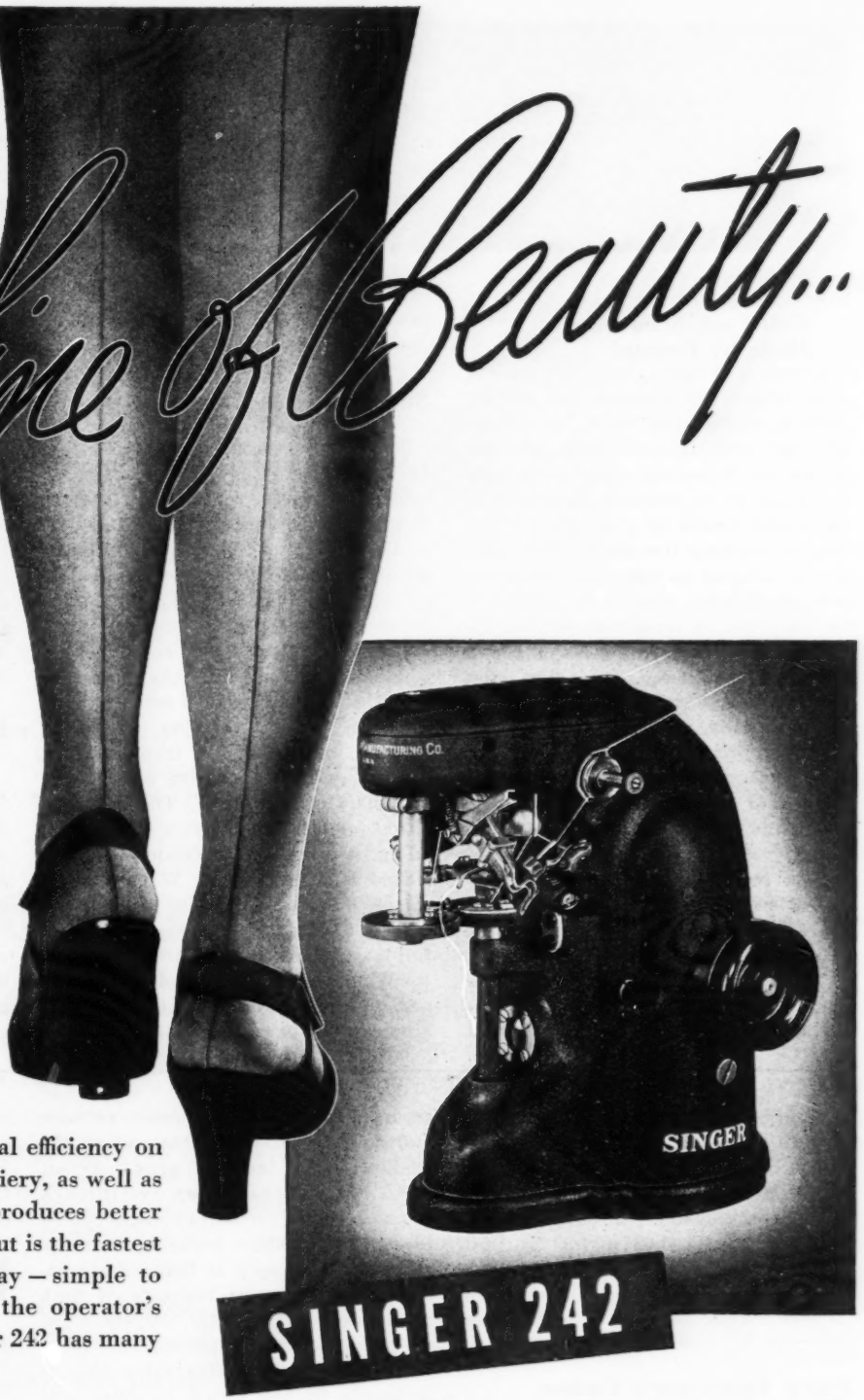
For the first time in the history of the full-fashioned hosiery industry, in 1940 the number of machines scrapped exceeded by a wide margin the number of machines installed during the same period, according to a survey of the Textile Machine Works. The report stated the trend to 51-gauge equipment is important and the number of new mills installing old machines, obtained from mills in liquidation, is definitely declining. Of the 16,200 machines operating in the industry at least 3,000 are said to be economically obsolete because of slow speed, poor physical condition or obsolete gauge. According to the survey, the per capita consumption of women's stockings during 1940 averaged one pair a month per person. All-silk and silk leg with cotton or rayon welt constituted 92.4 per cent of the shipments while nylon shipments were 6.3 per cent of total full-fashioned shipments.

Underwear Production Up 10 Per Cent for First Quarter

A gain of 10 per cent in production for the first quarter of this year is shown in the knit end of the underwear industry. Mills making different numbers of knit cotton and wool underwear have been more actively engaged than for several years, with substantial buying by the Government in the last half of 1940 and continuing this year, largely responsible for the exceptional showing in mill activity. The buying of heavy part wool shirts and drawers for the Army and Navy has had much to do with the sharp production gain this year when the industry produced as much as 400,000 dozens of the part wool shirts and drawers compared with only 145,000 dozen a year ago.

At the same time the Government has bought large quantities of lightweight knit undershirts thereby adding considerably to mill production in recent months. The stock situation

The Line of Beauty...



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All women want lovely, sheer stockings with fine, straight pencil line seams that are fashion-smart, yet have adequate elasticity and durability.

The new Singer 242 was especially designed to produce that much desired hairline seam . . . a narrow, straight line . . . the line of beauty in hosiery seaming.

The Singer 242 operates with equal efficiency on the most delicate Nylon and silk hosiery, as well as wool, cotton and lisle. It not only produces better seams which are stitched straight—but is the fastest hosiery seamer on the market today—simple to operate at speeds limited only by the operator's ability to guide the work. The Singer 242 has many features, including:

Distinctive Design . . . extremely narrow machine head—provides a clear view of work guides and feed cups.

Singerlight . . . built in directly over the stitching instruments floods work with light.

Balanced Motion . . . fewer moving parts . . . avoids vibration . . . assures quiet, smooth, dependable operation.

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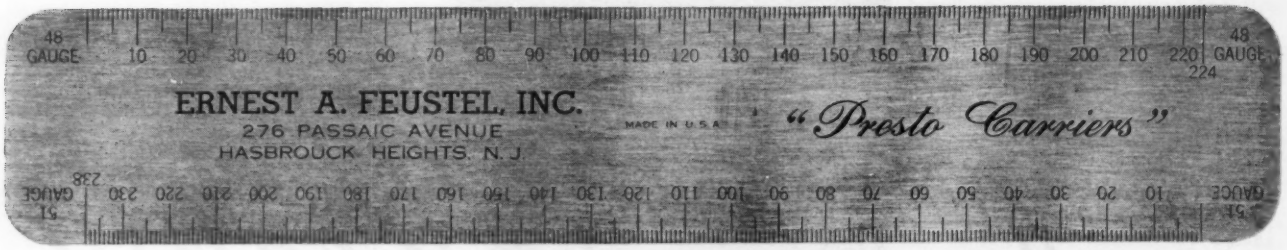
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Steel Rule for Full-Fashioned Work Made by Feustel

Ernest A. Feustel, Inc., 276 Passaic Ave., Hasbrouck Heights, N. J., has made available steel rules for 42-, 45-, 48- and 51-gauge full-fashioned machines, all on the one rule, the purpose for which is to conveniently arrive at the center needle of a section for setting or checking the draw. The number of needles in the narrowing fingers, needle bars, picot, welt, and transfer bars can be measured, as can the width of the high splice, the needle width of the instep, etc. The steel rule may also serve as a straight edge for practically all parts that go into a section proper, enabling the examination of needles, points, and hooks when held against them, acting as a focus and making any irregularities become readily seen. The use of the rule is recommended for periodic examination of the needles, points, sinkers, knocking-over bits, etc. The rule will show deviations readily if used by the foremen, fixers or knitters. Since four gauges are on each rule, the operator only is required to carry one rule instead of four as heretofore. The rules are for 7 inch measurement and are eight inches overall.

◆

Supply House for Full-Fashioned Mills

The Southern Hosiery Machine & Service Company is an organization established for the purpose of serving full-fashioned hosiery mills in the southern territory and has recently moved from Morganton to Valdese, N. C., where it occupies a plant in the immediate outskirts of the town on Route 72 between Morganton and Valdese. The supply house has the necessary facilities to give prompt service in re-needling bars, re-pointing narrowing fingers, welt bars and transfer bars, as well as in re-sinkering and repairing knocking-over bars. The Southern Hosiery Machine & Service Company is an agent for Alfred Hofmann, Inc., and Alfred Hofmann Needle Works, Inc. A complete stock of needles, points, sinkers, dividers and machine parts for full-fashioned machines is carried. H. L. Wirth is in charge of the office and supervises the work of a trained group of needle and bar straighteners.

Rubber Top Trimming Table

Textile Trimming & Boarding Machine Co., Inc., Reading, Pa., has designed a rubber top trimming table which trims twelve stockings at one time, replacing the former method of trimming the rubber end in the cuff of hosiery with a pair of scissors one by one. The operator picks up twelve stockings and passes them over a suction device, which draws the loose ends from the stocking and then the hose are passed over the trimming engine which cuts them off and the ends are automatically taken to a waste bag.

◆

Package Dyeing Machine Operates on Pneumatic Principle

Venango Engineering Company, Philadelphia, Pa., has built an all stainless steel vertical spindle type package dyeing machine which operates on a pneumatic principle of operation and control. A 4-way control transfer valve changes direction of flow of dye liquor outward and inward through the packages. Control panel makes all operations automatic.

---

with mills at the end of March showed a healthy condition, being 3,787,000 dozens compared with 4,086,000 dozens a year ago. In the knit sports wear end of the industry the Census report shows a total production for the first first quarter of this year of 402,000 dozens of polo shirts compared with 508,000 dozens for the same quarter last year.

Yarn Increases Cause Seamless Hose Advance

Price advances on seamless hosiery are developing at an active rate, covering men's, women's and children's hosiery such as women's mercerized and silk seamless stockings, men's half-hose using mercerized yarns and silk and rayon and also children's anklets made of combed and mercerized yarns. The advances so far on numbers such as the large selling anklets for children vary from 5 to 7½ cents and occasionally 10 cents a dozen. In the women's seamless mercerized end of the market one line that was formerly quoted at $1.62½ a dozen is now reported at 15 cents a dozen advance and manufacturers in this end of the business state the new prices do not begin to cover the higher cost through yarns and that further advances can be looked for. While realizing that hosiery advances such as this tend to upset the fixed price brackets of both wholesaler and retailer, buyers show no disposition to complain of the move by manufacturers. One thing that is definitely in the future to raise mill costs further is the new and higher wage minimum for the seamless end of the business.

Knitter Leaves $100,000 Trust Fund

Provision for presentation every four years of a $12,000 to $16,000 cash award to the Philadelphian who does most of the city in manufacturing or commerce is contained in the will of Edward Powell, president and founder of the Powell Knitting Co., seamless hosiery manufacturers, who died April 22 at the age of ninety years. The will specifies that $100,000 out of an estate valued for probate purposes at $200,000 and upward, be turned over to the Board of City Trusts for administration of the award. Employees of the company will receive $15,000.

Imports of Hosiery Decline Sharply

Imports of wool hosiery from the United Kingdom for the first quarter of this year show a decline of 65 per cent from a year ago. Arrivals for the first three months of this year from this source were only 17,000 dozens compared with 49,000 dozens for the same period a year ago. Total imports of hosiery for these three months, according to the National Association of Hosiery Manufacturers, were 304,000 dozens compared with 562,000 dozens last year. Another end of the hosiery imports showing a sharp decline was the cheap cotton numbers from China that had been coming in in a large way up to this year. Three months imports this year in these numbers from that source were only 150,000

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If the finish on your merchandise cannot compete with your top-line competition . . . If your cloth doesn't look right or feel right . . . If it's a headache—put it up to us.

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Day-in-and-day-out our skilled textile chemists are working with the forward-thinking minds in the Industry. We make a complete line of textile finishes, dyeing agents, penetrants and softeners. But, our real job is service—adapting Amalgamated Finishing Compounds to the conditions in individual mills.

Take our Liquid Alkamine C, for example.

Here is series of synthetic condensates—unequalled for imparting softness to dyed yarns or cotton piece goods especially when used with spun rayon.

Liquid Alkamine C is stable to hard water, acids or alkalies and can be used with any of these chemicals in textile processing. Used by dyers on cotton, cotton and rayon hosiery, cotton skeins and package yarns, cotton and rayon piece goods.

The softer feel, more lustrous appearance, increased penetration and better wettability secured with each adaptation of Liquid Alkamine C give a plus value to merchandise that means more sales and better profits.

No matter what your present problem in textile processing—or hosiery finishing—may be, we have the men and the experience to understand your problem and the laboratory facilities to help you solve them. Write us.

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dozens compared with 282,000 dozens last year. Imports of cheap numbers in cotton and rayon from Japan also decreased, the total being 134,000 dozens compared with 220,000 dozens last year. Importers state that prices of cotton numbers from China have been advancing recently, coming at the same time the supply has been decreased.

Interwoven Hosiery Strike Settled

A contract was signed April 26 by the Interwoven Stocking Co., and representatives of Branch No. 92, American Federation of Hosiery Workers, bringing to an end a strike that had begun five weeks previous in the company's plant at Martinsburg, W. Va. The contract will run until January 15, 1942, with a clause calling for automatic extension unless thirty days notice is given by either party looking to termination. Concessions made to the union include a 10 per cent wage increase and a voluntary check-off system. The Union agreed to drop its demands for one week vacation with pay, straight plant seniority and a union protective shop.

Phila. Textile School Improves Knitting Course

The Philadelphia Textile School is completely equipping a new knitting laboratory and for the fall season plans to offer a new one year coordinated course in knitting. Previously instruction in this course was offered as an adjunct to several other divisions. Now a laboratory containing flat and circular knitting machines to make hosiery, underwear and outer garments of rayon, wool and silk is being installed and instruction will be part of the school's regular course. New knitting equipment will be installed.

Arcadia Strike Settled

Work was resumed at the Arcadia Knitting Mills, Allentown, Pa., early this month when a one-month-old strike came to an end following the acceptance of company officials and union representatives of recommendations made by the National Defense Mediation Board. The mill is working on Government contracts, mostly for mosquito netting. George Heller of the TWOC said the workers voted to accept the recommendations which provide for a closed shop, a week's vacation with pay for employees of nine months service or over, a 37½ cent minimum hourly wage, wages to be paid weekly instead of every two weeks, departmental seniority, equalization of work and in event of any wage differences that they be submitted to arbitration.

Report Change Sought in Knitting Arts Show

It has been reported that rayon producers that are important exhibitors will seek to have the Knitting Arts exhibition, held each year in Philadelphia, changed to every other year. Several are said to believe it would be an excellent idea to have it alternate with the Southern Textile Exhibition which is held every other year in Greenville, S. C. Rayon producers are also said to feel it would be wise to have the exhibition held somewhere else than in Philadelphia. Other branches of the industry have suggested that interest in the Philadelphia Show would be increased if a style show were held in connection with the machinery and equipment display.

Underwear Wage Committee Named

A wage committee to study and reccomend a new minimum for the underwear industry has been announced by General Philip B. Fleming, Wage Law Administrator and the new group will hold its first session June 16 in Washington. The new committee this time will take in woven underwear as well as knitted and commercial knitting. Under the first wage committee the woven end of the underwear business was under the apparel committee. Both men's and boys' woven underwear will now come under the knit underwear committee.

The manufacture of men's and boys' woven underwear has been carried on under a 32½ cent minimum wage which went into effect July 15, 1940, as a section of the apparel wage order so that as a result of this minimum about 6,000 of the 9,000 persons employed in the manufacture of men's and boys' woven underwear received pay increases. The knitted underwear and commercial knitting industry has been operating under a 33½ cent minimum wage which has been effective since May 6, 1940. The latter order directly increased the wages of about 17,000 workers in the industry which employs about 62,000.

Agreement to End Apex Case Reached

A compromise by which the Apex Hosiery Co.'s $1,171,957 suit against the county of Philadelphia and the American Federation of Hosiery Workers would be settled for a cash payment of $125,000 has been agreed upon. The county would pay $15,000 and the union under the plan would pay $110,000. Suing the union for damage done by strikers at the plant and the county for alleged failure to give adequate police protection, the company originally won a verdict of $711,000 in the Philadelphia Federal District Court. This award was later invalidated by the United States Supreme Court because the suit was for triple damages under the anti-trust law which the court said was not applicable.

Branch No. 1, American Federation of Hosiery Workers, which staged the famous sit-down strike in 1937 is reported prepared to pay its share. In this connection it is recalled that at the recent annual convention of the federation in Philadelphia, plans were discussed whereby the entire national union would take part in paying its share of the bill so that the full brunt of the huge payment would not fall upon the local in Philadelphia. The $125,000 settlement is believed to be also satisfactory to the insurance companies involved. These firms have already paid an estimated $141,000 to the Apex so they will receive bulk of the settlement payment.

New Hosiery Rules Effective July 15

The Trade Practice Rules for the hosiery industry in process of formulation since late in 1937, have been officially approved by the Federal Trade Commission and will become effective July 15, 1941. Tentative draft of the rules as outlined at a hearing held last November has been followed generally but there are some additions and amendments to which the National Association calls attention.

There is a standard or definition for "lisle" for the first time. The lowest count qualifying for this description is a 30s count. The cotton used must *be* long staple and in the final draft of the rules it is permissible to use a staple of an inch and a sixteenth in the 30s and 35s counts. Minor changes were also made in the minimum twist requirements of the highest counts. The "crepe" standard, developed five years ago, now generally accepted, is incorporated in the final rules.

It is not necessary to disclose the fiber content of each item entered on an invoice, provided this carries a statement to the effect that the seller warrants that each and every item coming under the rules, and covered by such invoice, is properly marked and labeled as to content in conformity with the rules. Hosiery containing any kind of wool is governed by the Wool Products Labeling Act. Hosiery irregulars, seconds or thirds, must be conspicuously marked to this effect. The rules apply not only to the manufacturer but govern with equal force the converter, processor, dyer, finisher, distributor, dealer, importer, vendor or any person acting for any of these.

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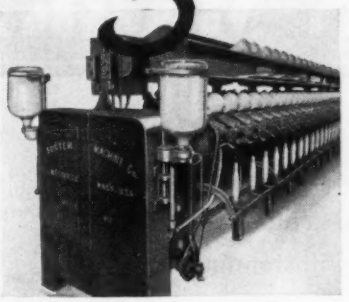

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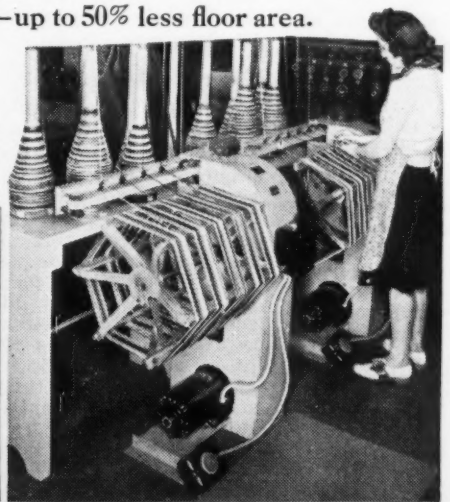

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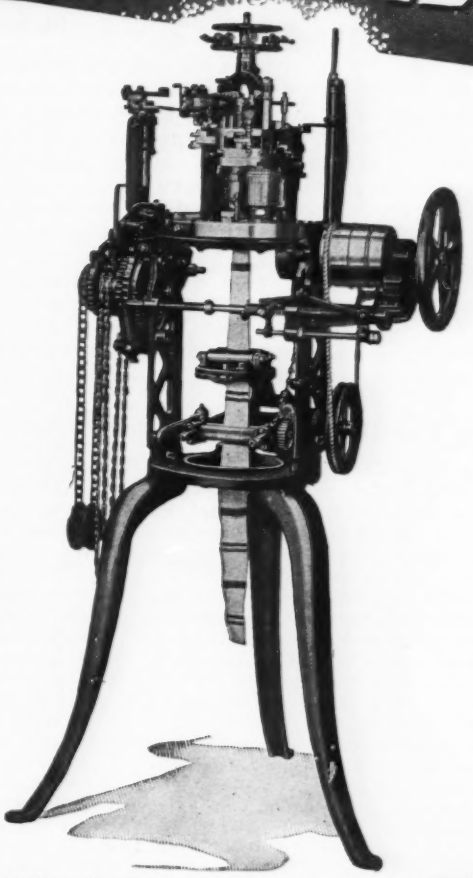

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TRENDS—YARN MARKETS

Cotton Yarn Advance Continues but Rise More Conservative—Government Threatens to Fix Combed Yarn Prices—Underwear Knitters Protest "Speculation" in Combed Yarn—Silk Well Stabilized—No Change in Rayon Notwithstanding Rumors of Advance

Philadelphia, May 16, 1941

THERE HAVE BEEN no wide price movements in the yarn markets this month except in cotton yarns where further increases have come, though these were not as sharp as they had been previously. Silk has been steady but prices are not much different; worsted yarns have increased but not importantly, several numbers being up 2½ cents and others unchanged although very strong. Rayon has been selling at unchanged levels notwithstanding rumors that producers would increase prices at this time. The outstanding event in the cotton yarn market was a conference held in Washington early this month by combed spinners and Price Administrator Leon Henderson when the latter declared that prices in these yarns were "fictitious" and added it was possible the Government would set a ceiling, meaning that they would be fixed. Spinners assert comparatively little combed yarn has sold a recent peak prices.

Cotton Yarns

Cotton yarns have been the strongest of any textile fiber during the last few weeks and advances in carded qualities have been approximately two cents while increases in combed have ranged from one to five cents a pound with the larger increases taking place in the finer numbers. Buying interest has been less active and particularly so in the combed end where shipments have greatly exceeded new orders. There has been a fair demand for carded yarns but even in this type more resistance on the part of buyers is being shown as the prices are increased further. There are several reasons why new business is expected to be smaller in the coming weeks. The most important in this category is fear that the Government shortly will set a price limit on cotton yarns.

Early this month combed yarn spinners met with Price Administrator Leon Henderson in Washington with the view of discussing combed yarn prices and at that time he asserted that the combed cotton yarn industry could either eliminate "fictitious" prices or be faced with a ceiling schedule. Shortly after this meeting the Army opened bids on several million cotton knit undershirts but shortly thereafter announced that no contracts would be awarded at this time. These two developments were viewed by the sales cotton yarn trade as indicating the possibility that in the near future a ceiling on combed yarns would be set by the Government. If this were done it is believed that somewhat lower prices on combed yarns would be seen and because of this numerous buyers of such types have been withholding new business. This has not become evident to the same degree in carded yarns where the price increases to date have not been quite as extensive as they have been in combed.

Late in April a new advance in mercerized yarns was announced raising this list six to eight cents a pound and making the new level for 60s two-ply ungassed 88 cents compared with 82 cents in the previous list which had gone into effect March 8. This advance is not expected to be the last because it has been announced additional advances have come in combed yarns. But even so quotations of mercerized have registered a substantial increase in the last few months as last fall sales of this count were made around 61 cents compared with 88 cents in the new list. This means that both hosiery and underwear manufacturers are now confronted with much higher yarn costs which have already been reflected in goods prices advancing conservatively. Carded and combed yarns have advanced one to two cents but the advancing frend of recent weeks is becoming less noticeable.

Silk

There has been no great price change in this commodity although the market has been trending slightly higher and interest from hosiery manufacturers remains unexcited notwithstanding the possibility of international developments in the Far East which could result in the stoppage of imports. A topic of interest in raw silk was the announced intention of the Japanese Government to curtail further the production of silk during the coming 1941-42 season. It was stated the curtailment would be between 15 and 20 per cent with possibility that it might approach the higher figure. Tentative estimates placed the probable total to be produced during the next season at around 610,000 bales, which would compare with an indicated output during the current season of 700,000 bales. Consumption in Japan will run around 380,000 bales.

This would leave around 230,000 bales available for export to America and other countries or a little less than 20,000 bales a month. The indicated export total for the current season is in the neighborhood of 290,000 bales. Domestic mill takings of raw silk during April amounted to 23,538 bales and stocks at the end of the month decreased to 49,373 bales as against 49,904 bales at the end of March. During that month exports of silk to the United States from Japan amounted to 18,670 bales as compared with 19,770 bales during March. Indications are the New York position of silk will become tighter although warehouse stocks there are in no sense of the word inadequate. It will be recalled that they have been declining since the first of the year and the trend is apt to continue in view of the intention of the Japanese to curtail production further.

Rayon

Although there had been predictions that rayon yarn prices would advance before the books were open for June business, the major yarn companies opened their books at unchanged prices. It was indicated in this connection by several sellers some modest rayon yarn price advance might be in order in the future, but that the time for it was not yet here. In the meantime demand for such yarn is exceedingly active with most branches of the industry being willing to take larger deliveries than producers can make and interest has been particularly good from hosiery manufacturers that are using more rayon in both full-fashioned and seamless.

Production of both rayon yarn and staple fiber by American plants during the first three months of this year established a new quarterly record. Production of rayon filament yarn for the first quarter amounted to 106,200,000 pounds, exceeding the previous record by 3 per cent.

Worsted Yarn

Spinners of worsted knitting yarns are operating at very active rates but during the month they have made progress in catching up on deliveries except in one or two spots such as in hand knitting counts. Outerwear manufacturers are trying to get as many goods made ahead as possible as many of them and their customers are expecting still further advances in the coming months. The recent advance in worsted yarns has caused manufacturers of cheaper lines of such knit goods to turn more to the use of substitutes and prominent in this connection is cotton core yarn which is coated with a blend of rayon and mohair or in a slightly better type garment the coating is rayon and wool and the next higher grade core is covered with an all wool coating. During the last month the most active yarns have advanced 2½ cents a pound.

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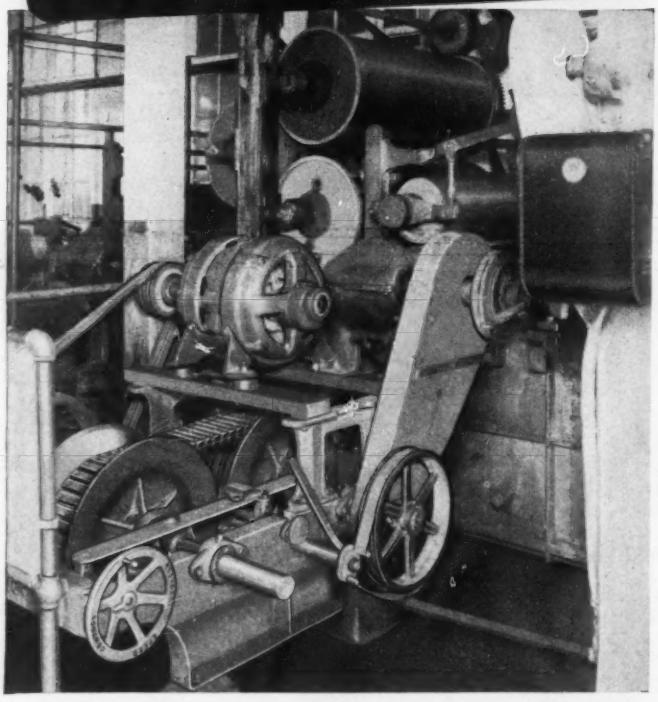

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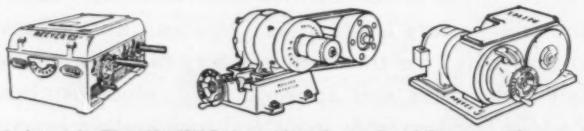

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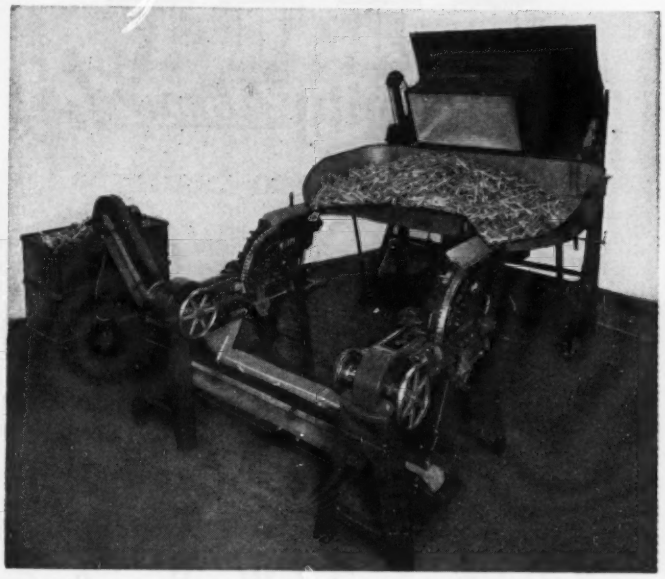

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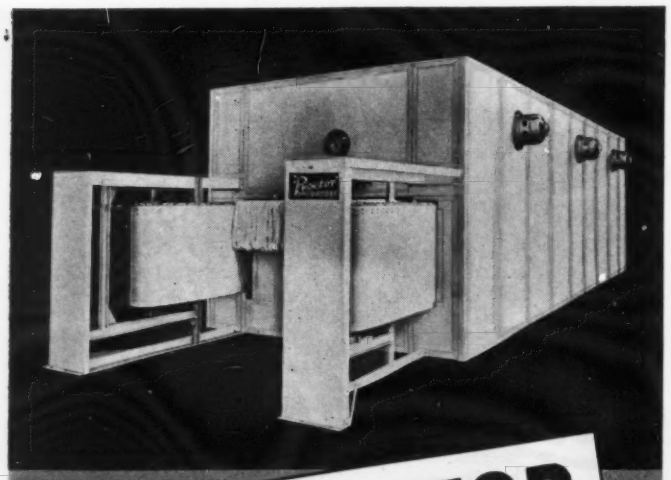

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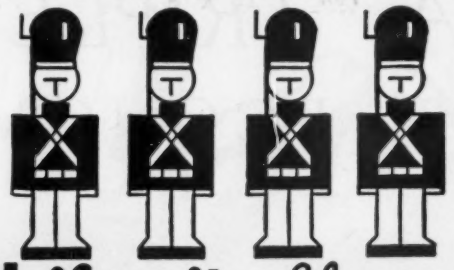

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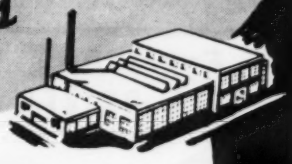

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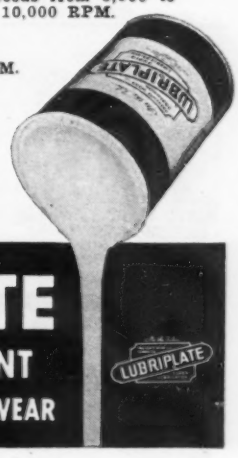

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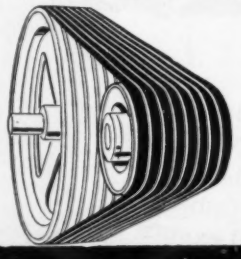

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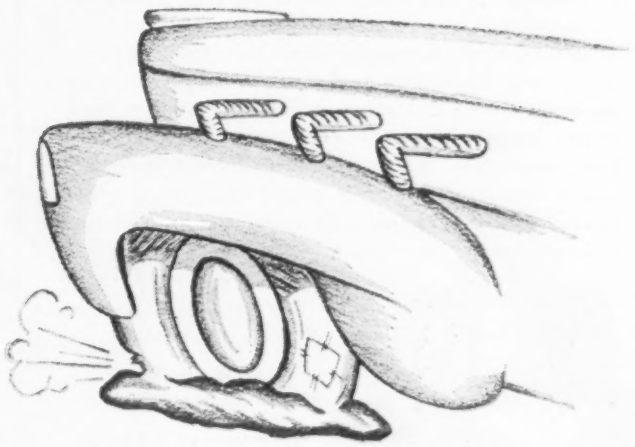

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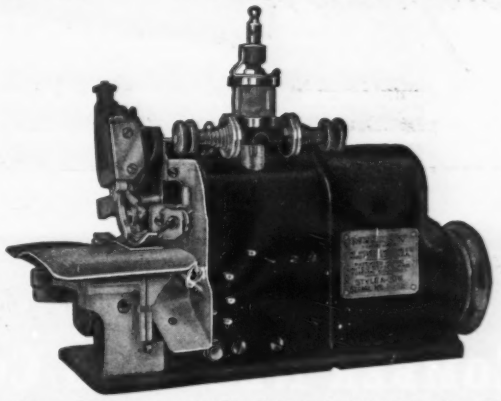

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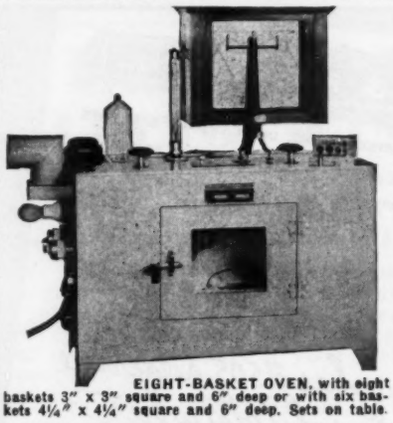

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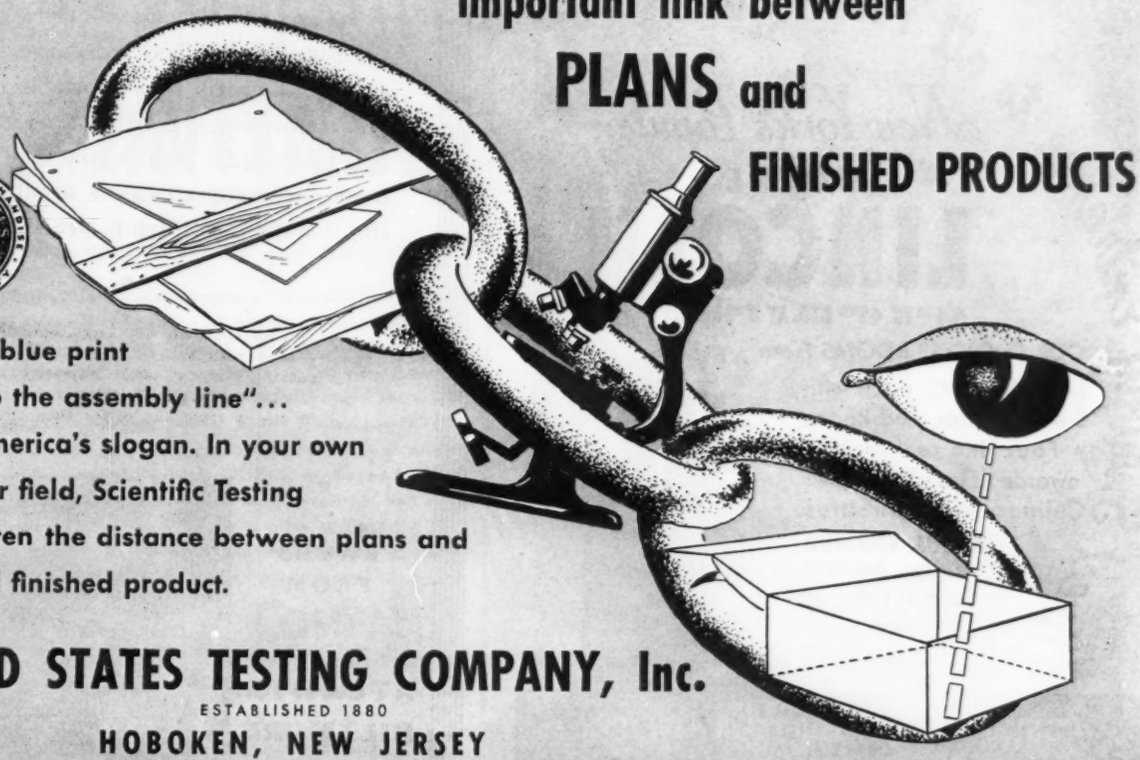

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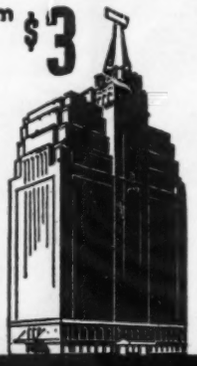

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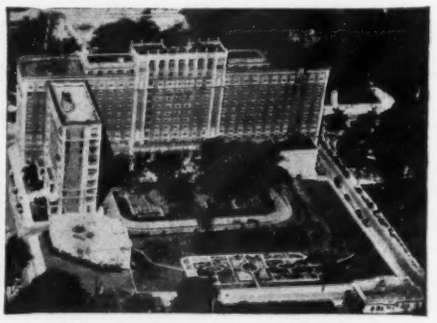

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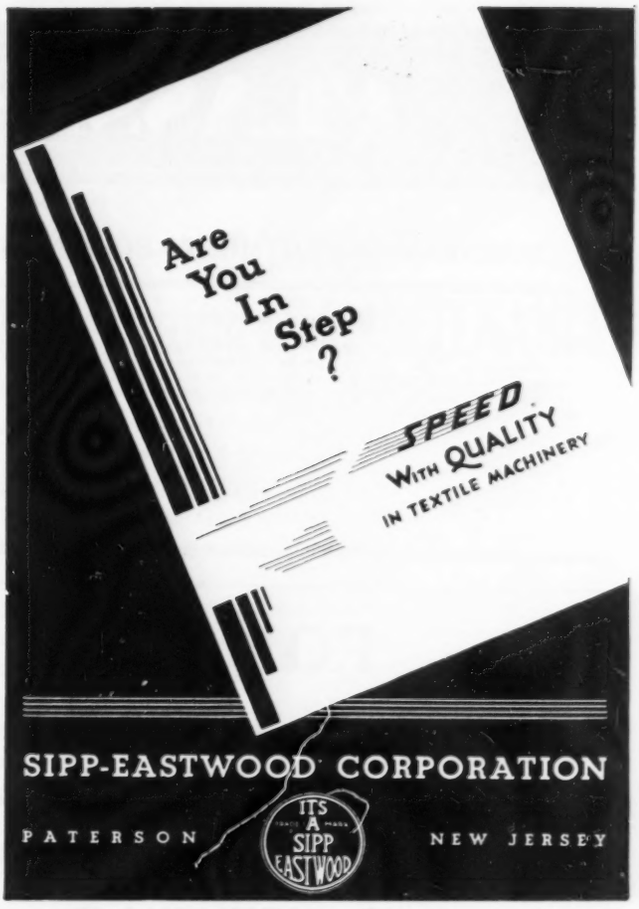

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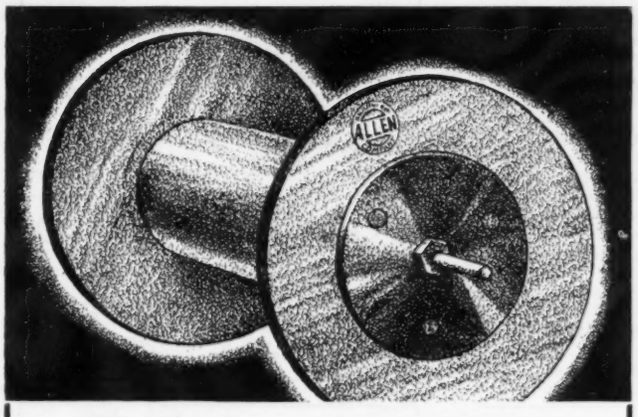

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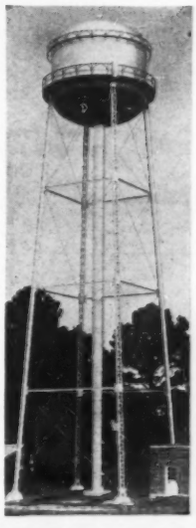

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ESTABLISHED 1854

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Box number address care of COTTON, Grant Bldg., Atlanta, Ga., count as eight words.

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24—90" Stafford Looms Worthy of Inspection. Shuttle Change. In Good Condition. Splendid Looms for Wide Sheeting.

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Nationally prominent company has opening for salesman with following among southern cotton mills and finishers.

Must have technical education and mill experience in textiles and a good sales background.

Resident of the South preferred. In reply, give complete information covering experience, education, and salary desired.

Address Box 537, care COTTON, Grant Bldg., Atlanta, Ga.

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CHRISTIANBURG, VA. On U. S. Highway No. 11—three story brick factory, 2 story el of 23,000 sq. ft., daylight construction, sprinkler, heated, cement daylight basement, fire escape, manual elevator, toilets both sexes, showers. Adequate power and female labor — wired for light machines used in overall manufacturing. Long term payments to sell at $15,000 or will lease. Immediate possession. Oscar A. Wall, Agent, Roanoke, Va.

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For South American Position

Must be Single, High School Graduate about 25 years old with textile training and thoroughly experienced on Cards and Card room machinery. Permanent Position with Reliable Concern and opportunity for advancement. If qualified, write "Textile", 401 Telfair St., McRae, Ga.

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Must be thoroughly experienced in all departments, including personnel.

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Address Box 538, care COTTON, Grant Bldg., Atlanta, Ga.

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Position wanted as overseer of Cloth Room, finishing and Sanforizing. Fifteen years experience. Some experience in designing. Thirty-eight years of age, married, references. Address "Finisher", care of COTTON, Grant Bldg., Atlanta, Georgia.

EATON AND BROWN

Patent Attorneys

1206 Johnston Bldg., Charlotte, N. C.
514 Munsey Bldg., Washington, D. C.

Paul B. Eaton, Former member Examining Corps U. S. Patent Office

POSITION WANTED

in North or South as Asst. Superintendent of cotton yarn or weaving mill. Experienced in carding and spinning on cotton and rayon, blends of wool and rayon, silk and rayon noils. Two years experience, textile school graduate, American, married. Now employed but desires change. Address Box 536, care COTTON, Grant Building, Atlanta, Ga.

Wanted Fabric Technician

Nationally known rubber manufacturer requires textile graduate for development department. Must have experience in laboratory work on rayon and cotton, especially rayon. In reply state age, experience and enclose photo. Address Box 535, care of COTTON, Grant Bldg., Atlanta, Ga.

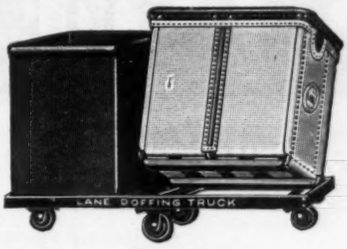
Your Advertisement on This Page

will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire your business or professional card placed before the textile industries?

Why not try an advertisement on this page of COTTON? Its 12,500 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Note the rates above and send in your advertisement today.

COTTON, GRANT BLDG., ATLANTA, GA.



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When you are considering repair expenditures, don't forget that new rings can boost your production tremendously, particularly on ply yarns and wool spinning. Our exclusive Eadie styles, with their superior lubrication, often permit gains of 25% and more; and frequently fit existing rails without change. For COMPLETE ring service, consult DIAMOND FINISH.

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WE MAKE ALL TYPES OF HOLDERS

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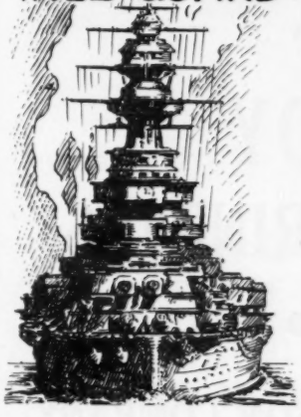

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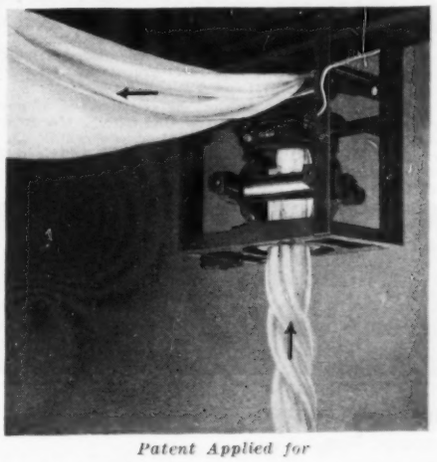

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NEW! DE-TWISTING MACHINE

For removing twist from fabrics after wet processing in the rope and before the Scutcher or Opener. Suitable for all fabrics. Saves time by eliminating stops—saves damage to fabrics.

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METASOL

(CALGON)

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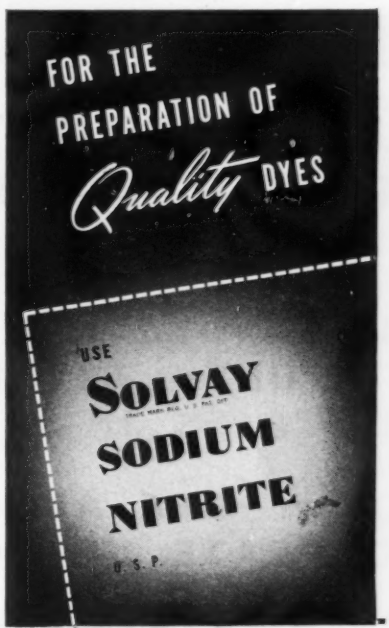

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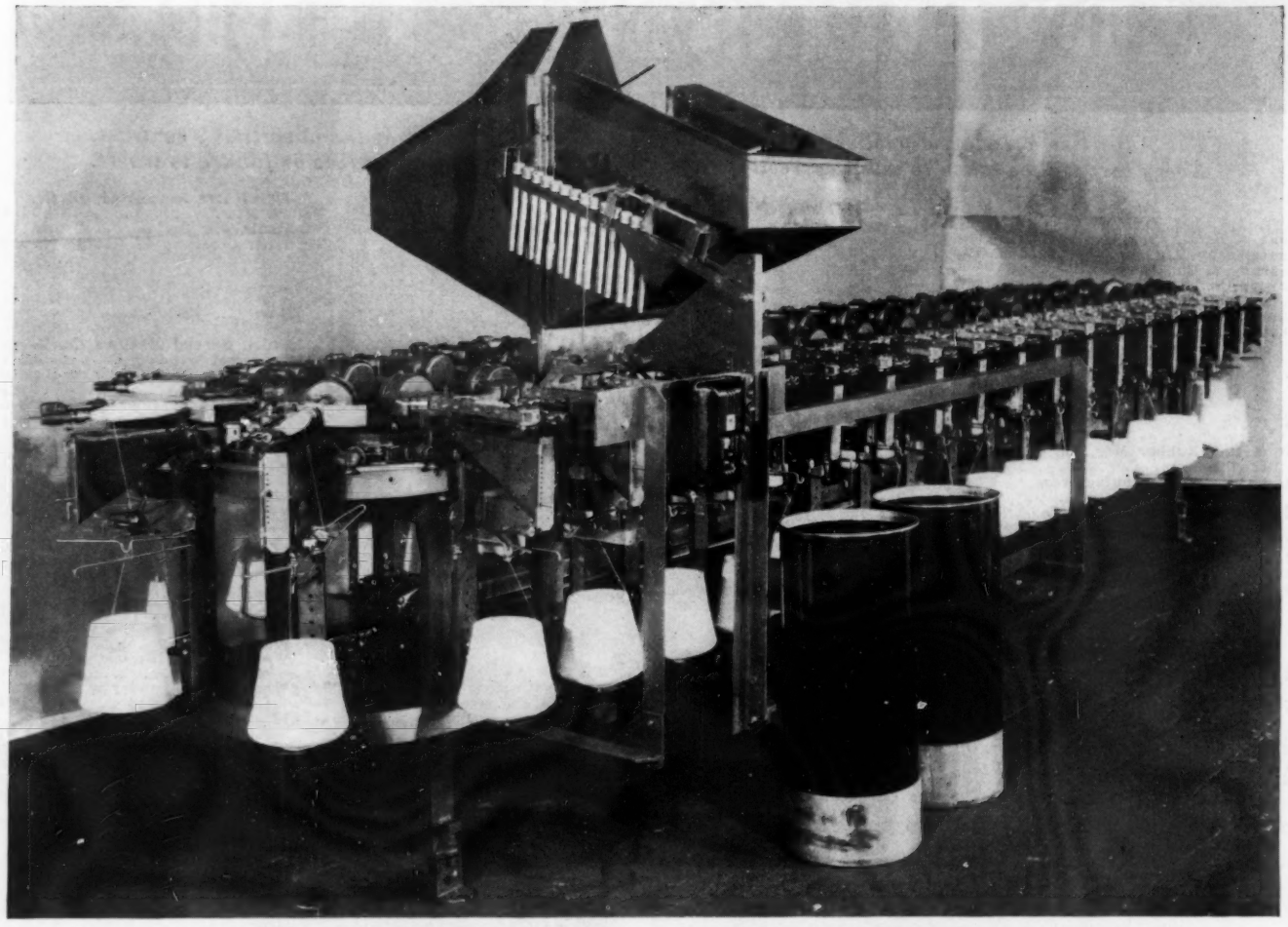

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THE MACHINE DOES THE REST.**

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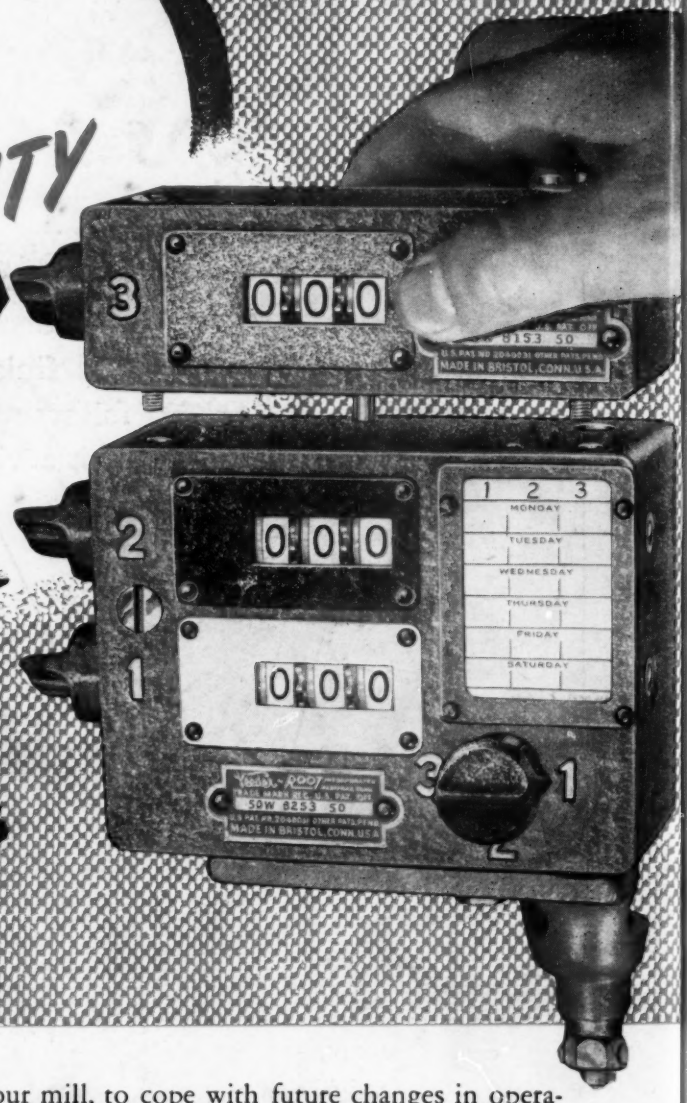

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